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ABSTRACT

These guidelines for professional nurses and employers in industrial settings present basic and fundamental nursing principles, duties, and responsibilities in the practice of occupational health. The content is presented in four chapters. The first briefly introduces occupational health. Chapter 2 on occupational health nursing service covers several topics, including the following: employment qualifications; employment policies; the health unit design and facility; the occupational health program and team; and program activities and services. These program activities are in the areas of medical monitoring and physical examination, absenteeism and disaster control, hearing and vision, health and safety education, rehabilitation, use of community resources, and the expanded role of the nurse. Chapter 3 describes the work setting, including a history of occupational health, the American Labor Movement, the corporate structure, and the plant profile. The last chapter focuses on current health and safety legislation which influences the health and safety of the American labor force, such as Workers' Compensation, the Social Security Act, and the Occupational Safety and Health Act. Suggested readings are included in each of the four chapters. Sources for health and safety education, sources for consultation and assistance, a statement for certification of occupational health nurses, and sample forms are appended. (EM)

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THE NEW NURSE IN INDUSTRY

A Guide for the Newly Employed Occupational Health Nurse

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U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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FOREWORD

The National Institute for Occupational Safety and Health (NIOSH) is responsible for helping to assure every worker in the Nation safe and healthful working conditions. To accomplish this end, the Institute engages in research on occupational safety and health problems and provides technical services to occupational health specialists.

Occupational health nursing is the largest source of health care services in industrial settings; but presently there are few schools of nursing which teach occupational health concepts as a specialty in nursing. Thus, we are pleased to offer in this publication, "The New Nurse in Industry," guidelines which provide knowledge necessary to assure a healthy work force.

This Guide can be used not only by the nurse working in the unique industrial setting, but also by employers in recruiting and selecting nurses and in planning programs for quality nursing services. Thus, we hope that the guidelines will be useful in a coordinated effort to maintain worker health and safety.

J. Donald Millar, M.D.
Assistant Surgeon General
Acting Director, National Institute
for Occupational Safety and Health

PREFACE

The Occupational Safety and Health Act of 1970 (PL 91-596) has had a major influence on requirements for occupational safety and health services and consequently on the largest source of these services, occupational health nursing. The Act furthermore emphasized the importance of providing skilled occupational safety and health personnel to assure implementation of its provisions.

Many nurses enter the field of occupational health nursing with little or no academic preparation in, or knowledge of, the services that nurses can provide to employees. The need for written guidelines to describe what a nurse can actually do to protect and promote the health and safety of workers has long been recognized. Many specific guidelines have been published by nursing and medical associations, by insurance companies with interest in occupational health, and by individual authors.

These guidelines attempt to bring together the basic and fundamental principles, duties, and responsibilities for nurses who may have no experience in occupational health. Included are outlines of the historical growth and development of occupational health and the industrialization of the American labor force. Also included are highlights of the health and safety legislation which affect the working population. This content is offered to enrich the nurses' understanding of the dynamics of the industrial environment.

Plant managers and employers in industry may find these guidelines useful when recruiting and hiring nurses, or when developing occupational health programs which require the services of a registered professional nurse.

The guidelines do not attempt to cover all general nursing practice, for it can be assumed that the new nurse will bring to the employer basic nursing knowledge, skills, and attributes acquired in nursing education programs. It would also be impossible to describe a total comprehensive nursing program in occupational health because of the diversity and complexities of American industry.

The content is based upon the author's many years of experience as an occupational health nurse and as a Federal consultant interacting with occupational health nurses; upon standards for quality occupational health nursing as recommended by professional nursing organizations; and upon excerpts from available literature related to this specific concept of nursing.

The Occupational Safety and Health Act of 1970 will be referred to as "the Act" throughout this Guide. All other acts will be referred to by their full title. OSHA means the Occupational Safety and Health Administration.

ABSTRACT

"The New Nurse in Industry" presents basic and fundamental nursing principles, functions, and responsibilities in the practice of occupational health. It acquaints the nurse with traditional concepts of occupational health nursing and identifies resources to assist the nurse in planning, implementing, and evaluating occupational health programs. Emphasis is placed upon the need for continuing education and further preparations to expand the level of nursing functions.

Chapter I introduces the new nurse to occupational health. Chapter II discusses levels of nursing experiences for employment, qualifications, and education. The health unit design and facility are described. Program activities and services are expanded upon specifically in the areas of medical monitoring and physical examination, absenteeism and disaster control, hearing and vision, health and safety education, rehabilitation, and use of community health resources. Relationships of the occupational health team (nurse, physician, industrial hygienist, and safety specialist) are considered throughout the program activities. The expanded role of the nurse is included to stimulate the new nurse toward skill efficiency and a more independent nursing practice.

Chapter III describes the work setting of the business establishment, and Chapter IV is devoted to current health and safety legislation which influences the health and safety of the American labor force.

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ABBREVIATIONS

AAIN	American Association of Industrial Nurses, now the AAOHN
AAOHN	American Association of Occupational Health Nurses
ABOHN	American Board for Occupational Health Nurses
ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
AMA	American Medical Association
ANA	American Nurses' Association
ANSI	American National Standards Institute
APHA	American Public Health Association
ASSE	American Society of Safety Engineeers
CDC	Center for Disease Control
CEU	Continuing Education Unit
COHN	Certified Occupational Health Nurse
DHEW	Department of Health, Education, and Welfare
DOL	Department of Labor
GPO	Government Printing Office
HMO	Health Maintenance Organization
HSA	Health Systems Agency
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NLN	National League for Nursing
NSPB	National Society for the Prevention of Blindness
NLRB	National Labor Relations Board
OSHA	Occupational Safety and Health Administration
POMR	Problem Oriented Medical Records
PSRO	Professional Standards Review Organization

CHAPTER I

INTRODUCTION

Nurses enter the specialty of occupational health nursing for many reasons. Some are seeking convenient employment. The industry may be close to home, or offer daytime employment without weekend work. Some nurses assume that occupational health nursing is "easier than hospital work" or that the pay is better with industrial corporations providing good fringe benefits. Others are genuinely curious about nursing in an industrial plant or are influenced by some life experience, remembering a personal episode that encouraged them to seek employment in occupational health. For whatever reasons you accepted a nursing position in industry, there is exciting and challenging work ahead for you.

The easy work is a myth. You are about to enter a business world of science and technology where high production rates and profit are the employers' main purposes for being in business. In industry, the major goals and high priorities of marketing a product or providing a service are very different from the goals and traditional purposes of a hospital or any other health care institution.

It is not unusual for a nurse to enter into a complex industrial work setting with little knowledge of the organization of industrial systems and little or no preparation in occupational (industrial) health nursing. Sporadically, a few schools of nursing may have provided limited field experience for students to observe industrial health activities and to participate in a planned orientation in occupational health nursing. This experience is usually integrated into the curriculum related to community health nursing. However, because community health nursing is generally taught in baccalaureate programs for nurses, the diploma nurse has been afforded little knowledge about the specialty of occupational health nursing. Unless students have received an orientation in occupational health nursing, their basic nursing education is inadequate to encourage them to seek more information about occupational health and safety.

Occupational health nursing is considered a specialty because of the specific knowledge acquired and skills performed, such as knowledge of potentially harmful exposures from the industrial process that affect the health and safety of employees. This content is not taught in general nursing programs. As a specialty, according to the philosophy of nursing education, this content in occupational health nursing should be offered in graduate schools of nursing.

Specifically designated educational resource centers are currently receiving, and will receive in the future, Federal grants to offer education and training in occupational health nursing as an integral core discipline in the field of occupational health along with occupational medicine, industrial hygiene, and safety engineering. These grants will provide training in undergraduate, graduate, and doctoral programs. Short-term training is also available under the grants. In addition, the resource centers can plan "outreach programs" to serve surrounding communities with educational and training needs in occupational safety and health.

Even if you have no formal preparation in occupational health nursing, you bring with you the basic knowledge, skills, and attributes routinely acquired in all three programs of nursing education: diploma, associate degree, and baccalaureate degree.

This Guide attempts to acquaint you with the traditional concepts of occupational health nursing. It will help you to understand standards necessary for occupational health practice and the new functions, responsibilities, and legal authorities which will influence the nursing care that you will administer. The Guide also presents information about the growth and development of occupational health and safety, and Federal legislation that has influenced its course. Finally, the industrial organization, with systems and goals designed for profit, is differentiated from the nurses' normal working environment in a health care institution.

It would be impossible for this document to present, in great detail, the depth of knowledge needed for the complete understanding of a comprehensive occupational health program. Therefore, sources for additional information and consultation appear in the Appendixes. Self study is strongly recommended to acquire knowledge about basic concepts and fundamentals of occupational health. Additionally, attendance at work shops, seminars, continuing education courses, and courses for college credit will benefit you, your employer, and the workers you serve.

CHAPTER II

THE OCCUPATIONAL HEALTH NURSING SERVICE

DEFINITIONS OF OCCUPATIONAL HEALTH NURSING

Occupational health nursing has been defined by several professional nursing groups and by other interest groups over a period of years. The AAOHN, formerly called the American Association of Industrial Nurses (AAIN), defines occupational health nursing as "the application of nursing principles in conserving the health of workers in all occupations. It involves prevention, recognition, and treatment of illness and injury and requires special skills and knowledge in the fields of health education and counseling, environmental health, rehabilitation, and human relations." The ABOHN, the independent nursing specialty board authorized to certify properly qualified occupational health nurses, accepted the AAOHN definition in 1972.

The ANA defines occupational health nursing as "that specialty which applies professional nursing principles in developing and carrying out a nursing service tailored to the changing environment of the specific company as well as the needs of its employees."

The U.S. Department of Labor (DOL) is more specific. It describes a registered industrial nurse as one "who gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premise of a factory or other establishment. Duties involved a combination of the following: giving first-aid to the ill or injured, attending to subsequent dressings of employees' injuries, keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel."*

QUALIFICATIONS

Qualifications for occupational health nursing should be described in relation to the expected functions and responsibilities of the nurse. There are many levels of employment for nurses in an industrial setting. Some functional descriptions are:

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*United States Department of Labor, Bureau of Labor Statistics. Bulletin No. 1950-41. U.S. Department of Labor, Washington, D.C.

- a staff nurse who functions under nursing supervision,
- a charge nurse who works alone and has responsibility for the nursing service,
- a supervisor who develops, administers, and implements the nursing service.
- an administrator of a nursing service with satellite supervisors and a nursing staff,
- a nurse consultant who works in a corporate structure; in an insurance industry; in local, state, or Federal governmental agencies; or is self-employed to advise, recommend, and provide consultation,
- a nurse educator whose principal function is the training and education of occupational health nurses,
- a part-time nurse from an industrial clinic or a community health nursing service who provides routine or special nursing services to a plant,
- a relief-nurse who temporarily replaces a full-time nurse, and
- a company employed visiting-nurse who provides some care, or follow-up, for an employee at his home.

Specifically, legal qualifications require that occupational health nurses have a current license to practice as a registered professional nurse (RN) in the state of employment. Generally, based on credentials of education, experience, and demonstrated ability, the nurse must be qualified to organize, coordinate, and evaluate the work of the nursing service. The nurse must have the ability to state nursing goals and objectives for the service; provide safe, efficient, and therapeutically effective nursing care; and maintain standards for quality occupational health care.

EDUCATION AND EXPERIENCE

As mentioned previously, educational opportunities to prepare occupational health nurses have been very limited; hopefully, this will change in the near future. Until then, some employers may be able to recruit nurses with previous experience in occupational health nursing. Usually, when nurses enter this field, they remain in the same positions for an average of about 15 years, or seek other employment within the occupational health setting. But with the passing of the Occupational Safety and Health Act of 1970, there are more nurses without occupational health experience who are being recruited to work in an industrial setting.

Employers must look carefully at the educational background and the work experience of a nurse applicant. Presently, ninety percent of the occupational health nurses are diploma (hospital-acquired) nurses. Forty-six percent of the nurses now employed are age 50 and over. There has been, however, a slight trend to employing younger nurses in occupational health.

Federal grants for education that are available to nurses under the NIOSH Educational Resource Center Grant Program will increase the number of university-prepared nurses. Employing a professional nurse who is a graduate of a baccalaureate program should be the trend in the future and is recommended now. Occupational health nurses are required to function independently in most industrial settings; the knowledge they require relating to professional judgments, decision making, problem solving, counseling, and evaluation is more readily acquired within the baccalaureate nursing programs. In the future, as educational trends indicate, all professional nurses will be prepared in baccalaureate programs within a university setting.

Because a comprehensive occupational health program covers all health problems of the worker in relation to his work and work environment, at least two years of generalized nursing experience is minimal for practice in this setting. Short-term continuing education in subjects related to worker health and safety should be planned to enrich the nurses's experience, improve existing skills, and provide technical knowledge in occupational health.

Experience in emergency room nursing, public health and community health nursing, out-patient services, and adult health ambulatory services, such as multi-phasic screening programs, is necessary and useful. Experience as a nurse practitioner or as a clinical nurse specialist in relation to the occupational health setting will be discussed at the end of this chapter.

EMPLOYMENT POLICIES FOR NURSES

The Initial Interview

During your first encounter with an official representative of the organization (the personnel manager, doctor, or nurse supervisor), there are many areas to be discussed, explored, and clarified. You should complete the company's general application form prior to the interview. It is important to describe your past nursing experience in detail. All information should be available from you when requested, and you may wish to attach your own curriculum vitae to the application form.

Job Description

The job description for the nursing position, as written by the company, is perhaps the most important document you will rely upon in your new career. Functions, duties, and responsibilities should be clearly stated. Demands of the job, both physical and emotional, should be expressed. Qualifications and educational requirements should be specific. It is essential to know specifically to whom you report, who your immediate supervisor will be, and equally important, how and from whom you will receive medical and administrative direction. (The need for medical direction is a legal requirement as mandated by the State Nurse Practice Act.)

You must mutually agree with your employer upon specific policies that affect your occupation as a registered professional nurse. Two very important and necessary policies are the need for medical directives and consultation and the need for professional liability insurance. Your employer may provide some protection for you and the plant physician, but in the performance of your duties as an occupational health nurse, you yourself may be held responsible for some alleged malpractice (error, mistake, or other negligence) in rendering professional nursing care. It is critical that you evaluate how best to protect yourself against a possible lawsuit and whether you need to carry your own professional liability policy in addition to any that may be provided by your employer.

Additional Training and Continuing Education

If the job description requires you to perform procedures or an activity for which you need additional training, you must resolve this problem before accepting the responsibility. For example, if the employer expects you to perform audiograms on employees and you have never been required to test hearing or use an audiometer, you must ask to be trained to perform this test. Audiometric technicians must be certified in order to perform a valid, acceptable audiogram. Hearing conservation programs are further discussed in this chapter. Other tests or procedures, such as performing lung function tests, collecting venous blood, or performing tonometry, require special training which must be afforded to you as necessary.

The employer must also allow for your continuing education, attendance at professional meetings, and availability of educational resources including professional journal subscriptions and current, related text books. If you reside in a state which requires, or has pending requirements for mandatory relicensure, the employer must take this into account.

A certification process for qualified occupational health nurses (ABOHN) appears in the Appendix. To become certified, you must show evidence of continuing education units.

Personnel Policies

You should know about the starting salary, raises and advancement, shift differential, over-time pay, number of holidays, length of vacation, and special allowances, such as a uniform allowance, before accepting a position. Sick leave, leave of absence (e.g., for return to school), group health insurance, life insurance, retirement plans, and other personnel benefits are usually established policies for all employees.

During your initial interview, you should visit the medical department or the health unit where you will be working. You may be somewhat dismayed at the limited space or equipment present in the health unit, or overjoyed to find a well-planned health facility having modern design and equipment. You will find that space for health services in industry is costly and occasionally receives low priority.

Orientation

Before the interview is closed, you should understand the employer's personnel policies and practices. It is also wise to be assured of an adequate orientation and on-the-job training. Also, it is important for you to become familiar with the total plant facility. If you are to work alone, or on a shift, it is imperative that you receive a planned orientation. Orientation should include tours of the plant departments, conducted by the safety personnel. This will be your first introduction to the recognition, prevention, and control of health and safety hazards in the industrial environment. Frequent talks, discussions, and conferences with foremen, supervisors, and department officials help you learn about the plant, the products produced, the materials used in operations, and the role of occupational health and safety in the industry.

Preplacement Physical Examination for the Nurse

Now you are ready for a preplacement physical examination. Because you are a nurse and may be exposed to a potentially harmful substance or unsafe conditions, you should be required to have a preplacement physical examination provided at a local clinic, hospital, or doctor's office. If the industry itself performs complete physical examinations, your own examination can be your first introduction to the preventive occupational health services. Physical examination programs are further discussed in the Guide.

If you are hired to develop an occupational physical assessment program, related references are found in the Suggested Readings sections of this Guide.

Nursing Practice

The quality of nursing care provided in the industrial setting must be comparable to that practiced in any community health care system. In the plant, the nurse is accountable for nursing care according to each state's existing State Nurse Practice Act, and the nurse must receive medical direction from a physician designated by the plant manager or plant official. Basic nursing principles and procedures to care for injuries and illnesses will be used. The nursing process based on nursing assessment, nursing diagnosis, nursing intervention, and nursing evaluation enhances the effectiveness of nursing care.

The nurse has many opportunities to independently implement standards of nursing practice. These standards state that the collection of health and safety data on the status of workers is systematic and continuous; the data are accessible, communicated, and recorded; the nursing diagnosis is derived from the health status data; and a plan is available for the nursing service to assist in achieving patient goals to protect the health and safety of workers and to prevent disability. The occupational health nurse, through health maintenance and health promotion, continues to assist the employee to achieve optimum health throughout his work life.

Nursing Functions

Acceptable nursing functions in occupational health have been recommended by the AAOHN, the ANA, and those insurance companies who develop guidelines for occupational health nursing programs. Statements of functions are available at minimum cost from the associations. (See Appendix for addresses.)

Many nursing functions in occupational health can be performed independently of medical direction. Others, according to each existing State Nurse Practice Act, must be performed dependently under legal, written orders as prescribed by the attending physician in charge.

Lesnik and Anderson's "Nursing Practice and the Law" has interpreted seven nursing functions, both independent and dependent, in a straightforward approach.

The nursing functions are summarized below.
Independent functions:

1. The supervision of a patient involving the whole management of care, requiring the application of principles based upon the biologic, the physical, and the social sciences.

2. The observation of symptoms and reactions, including symptomatology of physical and mental conditions and needs, requiring evaluation or applications of principles based upon the biologic, the physical, and the social sciences.
3. The accurate recording and reporting of facts, including evaluation of the whole care of the patient.
4. The supervision of others, except physicians, contributing to the care of the patient.
5. The application and the execution of nursing procedures and techniques.
6. The direction and the education for securing physical and mental care.
7. The application and the execution of legal orders of physicians concerning treatments and medications with an understanding of cause and effect thereof.

With these considerations of nursing practice in mind, some specific functions for the occupational health nurse are described below:

1. Collaborate with management to plan and administer a nursing service which gives the best possible nursing care to employees.
2. Provide primary nursing care for occupational and non-occupational injuries and illnesses, based upon nursing assessment, nursing diagnosis, and medical directives.
3. Supervise the transportation of ill or injured employees to a hospital, clinic, or physicians' office for appropriate care.
4. Make health referrals and coordinate plans for continued care and follow-up measures with community health services.
5. Develop and maintain a system of health and safety records and reports that conform to reporting procedures within the company.
6. Develop and update a nursing policy-and-procedure manual for the nursing service.
7. Assist with physical examination programs, obtain health and work information, perform screening measures, collect biological samples, interpret the findings, and make appropriate referrals and recommendations about positive results.
8. Counsel distressed employees and intervene to assist in resolving personal and emotional problems.

9. Teach employees about good health and safety practices and motivate individuals to improve health practices.
10. Identify health needs of workers, develop objectives, and implement programs in health promotion, maintenance, and restoration.
11. Collaborate with the occupational health team to explore ways of promoting environmental surveillance and to provide continuous medical monitoring for workers exposed to potentially harmful substances.
12. Be aware of current standards for health and safety legislation, and legal statutes pertinent to the practice of nursing and medicine in occupational health.
13. Periodically evaluate the nursing service planned programs and activities for appropriateness, adequacy, effectiveness, and efficiency.
14. Participate in professional nursing organization and community health activities.
15. Assume self-responsibility for professional growth and development.

SUGGESTED READINGS

Books:

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*Association addresses are listed in the Appendix.

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State Nurse Practice Act. (Available from your State Board of Nurse Examiners.)

THE HEALTH UNIT

Design and Facility

Management is responsible for providing, equipping, and maintaining the health unit. The design of the facility, including the equipment and supplies, will depend on the needs of the employees and the scope of the occupational health program. Facilities, when provided on the premises, should:

1. Be located in a quiet area, easily accessible to the greatest number of employees and to transportation. They should be located at a safe distance from plant operations that have a castastrophe potential and, when possible, situated adjacent to the safety and personnel offices.
2. Be sufficiently spacious, well lighted, attractive, climate controlled, and equipped with supplemental emergency power. The size will depend upon the number of employees and the services to be provided. (See Appendix.)
3. Include a waiting room, a receptionist area, examination and treatment rooms, a physical therapy area, a sound-proof audio-metric booth, an eye examination unit, a resting or recovery room, dressing cubicles, and toilet room facilities. Doors must be wide enough for litter and wheel chair access. Architectural barriers to the handicapped must be corrected.

4. Include a private area for consultation, doctor's office, nurse's office. Depending upon the scope of the program and feasibility, include facilities for laboratory and radiological examinations.
5. Provide space for health, safety, and environmental records, including an x-ray film file, with locked storage (fireproof, if feasible) and a controlled retrieval system. Compliance with OSHA recordkeeping requirements must be considered.

Equipment and Supplies

Basic equipment should be functional, durable, and attractive. Desks, chairs, wheel chairs, a litter, cabinets, files, hospital beds, sinks, towel racks, adjustable stools, a mirror, waste baskets, display racks, bulletin boards, and telephones are all essential.

Specific equipment should be selected and purchased according to the needs of the health services offered, such as:

- an eye examination chair with adjustable head rest, eye magnification lamp or eye spot-beam lamp, and eye loupe,
- a cabinet with special ophthalmalogical drugs, solutions, and instruments,
- vision testing equipment,
- a sound-proof booth and audiometer for audiometric testing,
- a pulmonary function unit,
- physical examination equipment and supplies, such as, stethoscope, tongue blades, tuning fork, ophthalmoscope, otoscope, nasal speculum, flashlight, neurological hammer, sphygmomanometer, vaginal speculum, disposable gloves, linens for draping, etc.,
- physical therapy equipment, such as moist-heat packs, ice packs, whirlpool, exercise arm wheel, or other modalities such as infrared, diathermy, or ultra-sonic,
- an electrocardiograph machine,
- laboratory equipment: microscope, centrifuge, autoanalyzer, reagents, stains, etc.,
- a refrigerator for drugs, biologicals, and ice compresses,
- a drinking fountain and paper cups,
- linens, pillows, and bedding, and
- a pressure sterilizer.

Equipment should be carefully maintained, calibrated as necessary, and properly used by qualified persons to insure safety and accuracy. Maintenance records should be kept for quality control.

The need for supplies will vary according to the type of health program required to meet the needs of the particular establishment and the type of operations within the establishment. Many medical supply and drug companies market products designed especially for industrial use. These companies provide information and advice concerning their product through the salesmen representing them.

Supplies should include:

- dressings (squares, eye-patch ovals, tubular, and various sizes of gauze and stretch-type rolls),
- adhesive tapes (butterfly, small bandages, and transparent tape),
- pressure combine dressings,
- a tourniquet,
- cleansing solutions and containers,
- irrigating solutions and devices,
- ointments, antiseptics, skin creams, and lotions,
- scissors (and other sharp instruments),
- forceps (lifting, splinter, and others),
- sterile wound dressing packs,
- sterile suture removal packs,
- thermometers,
- containers for dressings, solutions, and instruments,
- syringes and needles,
- urine specimen containers, and
- splints, slings, and crutches.

Specific items such as prescription drugs or narcotics that must be ordered by the attending physician are maintained and recorded according to state and Federal laws. Oxygen and life saving drugs must be readily and immediately available. Therapeutic oxygen is preferred over "industrial oxygen," which frequently contains impurities. An emergency tray should be maintained in preparation for cardiac shock, anaphylactic shock, or other types of respiratory failure due to sensitizing agents.

Provision should be made for the proper maintenance of the health room, cleaning and laundry service, and a procedure for ordering supplies. Supplies should be checked and replenished routinely. In ordering supplies, it is economical and efficient to buy single, pre-packaged sterile disposable dressings, medications, and certain types of equipment.

When a nurse is not present in the plant during plant operations, a trained first-aider must be on hand. First aid supplies must conform to minimal requirements specified in regulations under the Act; i.e., Code of Federal Regulations, Title 29, Subpart K 1910.151 "Medical Services and First-Aid" which states, "First-aid supplies approved by the consulting physician shall be readily available."

SUGGESTED READINGS

Employers Insurance of Wausau. Occupational Health, Planning Employee Health Services. 1970. Employers Insurance of Wausau, Wisconsin.

Howe, H. F. Organization and Operation of an Occupational Health Program, Revised Edition. 1975. Occupational Health Institute, Inc., Chicago.

THE NURSING POLICY AND PROCEDURE MANUAL

A nursing policy and procedure manual should be prepared by the occupational health nurse to provide general and specific information about the plant's occupational health program. The AAOHN has published "A Guide for the Preparation of a Manual of Policies and Procedures for the Occupational Health Nurse" (1969). The Guide lists the following "reasons for the manual":

"A manual serves as a tool for operating an effective occupational health service. It can be used:

1. To provide general information about the company, its personnel policies, and employee benefits.
2. To simplify orientation of new and relief personnel.
3. To help clarify nursing assignments and establish uniformity of nursing procedures.
4. To provide the physician with information concerning the health service program, nursing care procedures, and nursing service policy.
5. As a vehicle for a medical policy and medical directives.
6. To provide samples of records, reports, and forms with directions for their preparation and use.
7. To provide a current list of potential hazards peculiar to the particular company, including symptoms and treatment of resultant illness or injury.
8. To provide management with information concerning the functions of the health service.
9. As a resource for use during the field experience of student nurses.
10. To provide information or references to sources of information needed for effective management of the employee health service."

The AAOHN Guide includes sections on general information, medical service, nursing service personnel, preventive programs, administrative procedures, an appendix, and references. The Guide is an excellent reference with samples of nursing procedures, record forms, and written plant policies.

You will have to assume the responsibility to develop your own nursing policies and procedures based on the needs of your company and the nursing service. The policy and procedure manual should be updated periodically. Usually, the manual is a printed or mimeographed volume kept in a ring binder so that replacement sheets can be added when material is superseded by current changes in the policy or program.

THE OCCUPATIONAL HEALTH PROGRAM

The term "occupational health program" means a program, usually provided by management, government, or a labor union to deal constructively with the health of employees in relation to their work. Preventive medical care and health maintenance are basic components of the program.

The basic objectives of an occupational health program are stated in the American Medical Association's "Scope, Objectives, and Functions of Occupational Health Programs" (Revised, 1971):

1. To protect employees against health and safety hazards in their work situation.
2. Insofar as practical and feasible, to protect the general environment of the community.
3. To facilitate the placement of workers according to their physical, mental, and emotional capacities in work which they can perform with an acceptable degree of efficiency and without endangering their own health and safety or that of others.
4. To assure adequate medical care and rehabilitation of the occupationally ill and injured.
5. To encourage and assist in measures for personal health maintenance, including the acquisition of a personal physician whenever possible.

Achievement of these objectives benefits both employees and employers by improving employee health, morale, and productivity.

Scope of the Program

The scope of the occupational health program is determined by the size of the industry, the number of employees, the type of industrial processes, and the resulting potential health and safety hazards. Management must have concern for the adequate protection of its employees.

Several traditional forms of occupational health programs have developed, based on staffing needs.

1. A trained first-aider is a minimum regulatory requirement (29 CFR Subpart K, 1910.51 Medical Services and First-Aid), but should not be considered a complete program.
2. Part-time nursing services are available from a local health department, voluntary community nursing agency, or by nursing personnel employed by an industrial clinic which services small plants.
3. Specific occupational health services may be offered by an HMO in the community. According to the Health Maintenance Organization (HMO) Act of 1973, a plant may utilize the community HMO which must offer general health services to plant workers and their families. The HMO concept is relatively new and few HMO's are prepared to offer specific occupational safety and health services. (See HMO Act in Chapter IV.)
4. The utilization of one occupational health nurse is generally referred to as a "one-nurse unit" occupational health program. The occupational health nurse in this program must have an available physician on call or a consulting physician to provide medical directives.
5. A one-nurse unit with a part-time physician in attendance is the most common form (over one half of the occupational health nurses in this country work in this type of program). The physician comes to the plant at scheduled times.
6. A multiple-nurse unit is usually based at the corporate level, with overall direction and supervision over single-nurse satellite units.

Ratio of Nurses to Employees

An employer may need advice on staffing an appropriate nursing service. The following staff ratio of nurses to employees was developed during the critical needs of World War II. It is presented here as a sound, realistic, and acceptable guide for staffing the occupational health programs:

"The number of nurses employed should depend on the type of industry and the number of workers. For the maintenance of complete health service in an industry it was recommended that there be one nurse for up to 300 employees, two or more nurses for up to 600 employees, and three or more nurses up to 1,000 employees, one nurse for each additional 1,000 employees up to 5,000 and one nurse per each additional 2,000 employees. Additional nurses may be required because of hazards present in a particular plant and to supply service for second and third shifts. This number will be reduced in inverse ratio to the number of technical and non-professional workers employed in the medical department. Smaller industries (those employing less than 500 workers) which do not have serious occupational hazards may find part-time nursing services adequate."*

THE OCCUPATIONAL HEALTH TEAM

A majority of industrial accidents and occupational diseases can be prevented by applying known principles of occupational medicine, toxicology, occupational health nursing, industrial hygiene, industrial safety, industrial psychology, and ergonomics. Since occupational health involves team work, it is important to allocate the functions among the various members of the team. Although the nurse is the predominant provider of the health services in occupational health (21,000 occupational health nurses in 1972),* physicians, industrial hygienists, safety specialists, ergonomists, industrial psychologists, toxicologists, and other specialists have specific functions and team roles.

The basic occupational health team normally consists of the nurse, physician, hygienist, and safety specialist. Coordinated planning, understanding role functions, and communicating to collectively solve problems are essential team efforts to maintain the safety and health of the employee population. The team advises and makes recommendations to management and responds to the occupational needs of the employees. The basic team members are described by disciplines.

Medicine

Occupational medicine deals with the restoration and conservation of health in relation to work, the working environment, and maximum efficiency. It involves prevention, recognition, and treatment of occupational disabilities and requires the applications of special techniques in rehabilitation, environmental health, toxicology, sanitation, and human relations.

The occupational physician may be employed as a full- or part-time plant physician, or a consulting physician, and is available for on-call advice, direction, and consultation. In whatever capacity, the attending physician must provide written, dated, and signed medical directives to the occupational health nurse.

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*American Public Health Association, Committee to Study the Duties of Nurses in Industry. Duties of Nurses in Industry. July, 1943. American Journal of Public Health, 33:876.

*United States Department of Health, Education, and Welfare, Public Health Service, Health Resources Administration. Surveys of Public Health Nursing, Chapter 9, Occupational Health, 1968-1972. November, 1975. DHEW Pub. No. (HRA) 76-8.

Industrial Hygiene

Industrial hygiene is devoted to the recognition, evaluation, and control of the environmental factors attributed to the industry, which may cause sickness, impaired health, or significant discomfort and inefficiency among workers or among the citizens of the community.

Using quantitative sampling and analytical methods, the industrial hygienist is concerned with the analysis and surveillance of chemical, physical, and biological stresses in the work environment. The chemical agents may be in the form of liquid, dust, fumes, vapors, or gas. Physical agents (such as radiation, noise, vibration, heat, and cold) and biological agents (such as bacteria, viruses, yeasts, mold, and fungi) can be controlled by corrective procedures along with the chemical agents.

Usually, the hygienist is employed full-time only by large corporate occupational health programs, consulting firms, or Federal and state governmental agencies. Therefore, small and medium-sized plants must contract for the services of hygienists. It is important for the plant nurse, safety specialist, and physician to communicate with the hygienist, who in turn, must coordinate his/her activities with them.

Safety

The safety engineer or safety specialist is also concerned with the identification, elimination, and control of hazards to workers and to property. The safety program is concerned with accident prevention and investigations, safety education, and administrative controls. In more recent years, an additional function of the safety specialist is the development of total loss and damage control.

Nursing

Major functions of the occupational health nurse as a team member are to:

- collaborate with the health and safety team on policy, issues, and problems,
- recognize needs for facility and patient care,
- explore ways and means of promoting environmental health,
- assist in identifying risks to workers and institute medical controls and surveillance,
- report immediately non-routine incidents of injury or illness to proper authorities, and
- develop evaluation techniques to meet program objectives.

Most average-sized industries would not employ full time specialists such as the ergonomists or psychologists, but would seek the advice and recommendations of consulting firms or local government agencies for specific situations. The term "ergonomics," derived from the Greek "ergon" (work effort) and "nomos" (law), is defined according to the International Labor Office as "the application of human biological science in conjunction with the engineering sciences to achieve the optimum mutual adjustment of man and his work, the benefits being measured in terms of human efficiency and well-being." Knowledge of ergonomics can be applied by other members of the team, including the nurse. These principles of ergonomics are further discussed in the unit referring to the nurse making visits to the work area.

SUGGESTED READINGS

Ayer, H. E., E. A. Emmett, et al. Standards, Interpretations, and Audit Criteria for Performance of Occupational Health Programs, Contractor's Report to National Institute for Occupational Safety and Health (NIOSH). July, 1975. Contract No. (HSM) 99-72-109, Occupational Health Institute, Chicago.

Maisel, A. Q., Ed. The Health of People Who Work. 1960. The National Health Council, New York.

Schilling, R. S. F., Ed. Occupational Health Practice. 1973. Butterworth and Company, Ltd., London.

ACTIVITIES AND SERVICES

This unit discusses specific activities that are generally provided by nurses in occupational health programs. As top priority, it is logical to presume that the employer has hired you, the professional nurse, to give primary care* for any injury or illness that occurs at work. Many workers have been trained in giving first-aid (positioning, stopping hemmorrage, restoring breathing, preventing shock, and protecting the wound). Or they may be trained in transporting the injured or ill to the health unit. When you are present in the health unit, all injured or ill workers should be brought to you for triage and assessment. An exception to this would be when further movement of the patient would be contraindicated. Decisions should be made by you to give immediate treatment and/or to refer the patient to specialized care.

The cause of the injury or illness may be occupational or non-occupational. You will soon learn that there is a difference which is sometimes difficult to establish upon initial contact. The collection of facts about the particular episode will not only help you determine the needed care, but will aid future determinations of care.

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*Primary care as used in this Guide is defined in "Extending the Scope of Nursing Practice" as follows: (a) a person's first contact in any given episode of illness with the health care system that leads to a decision of what must be done to help resolve his problem; and (b) the responsibility for the continuum of care, i.e., maintenance of health, evaluation and management of symptoms, and appropriate referrals. (See Suggested Readings.)

Care and Treatment for Illness and Injury

You will primarily be giving emergency and/or primary care for occupational injuries and illnesses. Non-occupational illness occurring at work may also require immediate attention. The following categories are types of illness and injury seen in the occupational setting.

Minor Occupational Injuries

Examples of the minor injuries occurring regularly in the plant are superficial lacerations, splinters, first and second degree burns, contusions, abrasions, strains, sprains, skin rashes, and foreign bodies, especially in the eyes.

Major Occupational Injuries

Examples of more severe injuries are those which may result in temporary or permanent disability: deep lacerations, extensive burns, fractures, amputations, crush-type blows to the body, dislocations, and conditions which may require life-saving measures, such as shock and asphyxia.

Occupational Illnesses and Diseases

An occupational disease arises out of or in the course of employment. Occupational dermatitis is the most frequently occurring occupational disease. Exposures to physical, chemical, or biological agents may cause harmful irritation, allergic sensitivity, toxicity, narcosis, carcinogenicity, and asphyxia and produce a variety of patho-physiological and psychological indications of health disorders. The OSHA occupational illness code (see Appendix for OSHA Recordkeeping Requirements) classifies occupational diseases in seven categories: occupational skin diseases or disorders, dust diseases of the lung, respiratory conditions due to toxic agents, poisoning, disorders due to physical agents, disorders associated with repeated trauma, and all other occupational illnesses. Although occupational cancer does not appear on the OSHA illness code, per se, an occupationally related cancer must be included as an occupational disease.

Non-Occupational Conditions

Healthy employees, as well as those with chronic conditions, may become seriously ill while at work. Employees with known health problems such as cardiovascular disease, emphysema, epilepsy, allergies, or diabetes may experience adverse effects during working hours. Psychiatric episodes are also not unusual. Emergency care stipulated in your medical directives must be provided and you should initiate necessary referrals to the appropriate personal physician or to the hospital.

The preplacement examination, health history, and periodic health assessments provide you with the vital information necessary to respond to an acute episode. By anticipating what could happen to workers with chronic illness, specific health care plans should be developed to meet individual needs. Modes for transporting ill and injured workers for prompt emergency care should be planned according to company policy.

Some companies permit the nurse to give care for certain chronic conditions when the service is requested by the employee's personal physician. It must also be approved by the plant physician. The request for this treatment must be in writing and must set forth appropriate information and instructions, such as diagnosis, medication, dosage, administration, frequency, and duration. If and when the request expires, it must be rewritten by the attending physician.

Visit to the Work Area

Frequent planned visits to the work area are necessary and can be highly beneficial. The nurse observes workers performing their duties and tasks and establishes good relationships with supervisors, foremen, and the work force. Employees often discuss work problems and point out troublesome areas during the nurse's plant rounds.

The nurse can assess the correct use of protective clothing and devices worn by the employees; for example, ear defenders, safety glasses, or hair nets. The nurse can collaborate with the supervisors to change and modify poor working conditions through ergonomic measures. Continued medical monitoring procedures at the worksite may also be delegated to the nurse, and this would afford an excellent opportunity to inspect and assess the work area for safe work practices (safe lifting procedures, proper seating arrangements, etc.).

Finally, when visiting the work area, the nurse can follow-up on employees who have not reported back to the health unit and the employees are reassured that the nurse is available for help and assistance. Good communication with the occupational health team and with management is essential. Making regular visits strengthens this participation.

All of the activities and services discussed thus far have emphasized the nurses' role in providing prompt care for injured or ill employees. The remaining units in the Guide will emphasize nursing responsibilities in preventive health programs.

SUGGESTED READINGS

Books:

American National Red Cross. Advanced First Aid and Emergency Care. 1973. Doubleday and Company, New York.

American National Red Cross. Standard First Aid and Personal Safety. 1973. Doubleday and Company, New York.

Committee on Injuries, American Academy of Orthopedic Surgeons. Emergency Care and Transportation of the Sick and Injured. 1971. George Banta Co., Wisconsin.

Fawcett, H. H., and W. S. Wood. Safety and Accident Prevention in Chemical Operations. 1965. John Wiley and Sons, New York.

Hamilton, A., and H. L. Hardy. Industrial Toxicology, 3rd Edition. 1974. Publishing Sciences Group, Acton.

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Montgomery, R. R., and C. F. Reinhardt. A Capsule Dose of Toxicology. May, 1976. Occupational Health Nursing, 24(5):7.

United States Department of Health, Education, and Welfare, Secretary's Committee to Study Extended Roles for Nurses. Extending the Scope of Nursing Practice. November 1971. DHEW Publication No. (HSM) 73-2037, U.S. Government Printing Office, Washington, D.C.

THE PHYSICAL EXAMINATION PROGRAM

Routine medical examinations are undertaken to a considerable degree by occupational health services, especially in large- and medium-sized industry. The health status evaluation is intended to aid in the appropriate utilization of the worker's capabilities and not to determine qualification for employment. Plant policy, however, may determine what groups of employees are required to be examined as a prerequisite for employment. This unit discusses the preplacement examination, periodic health assessment, medical monitoring and surveillance, and other commonly performed examinations. The participation of the occupational health nurse in this program is further described.

Preplacement Examinations

As an aid to suitable job placement, some form of pre-employment health assessment is desirable. Under some OSHA Standards, this is mandatory. In-plant assessments will be influenced by factors such as the size, nature, and location of the industry and by the availability of medical and nursing services. The type of health examination to be performed, as well as the specific tests to be included, should be determined by the physician in charge of the health program.

Medical surveillance procedures based on existing OSHA health standards are required. Frequently, the standard will state that a comprehensive physical examination shall be conducted on all new employees, and periodically, thereafter, when exposure to a specific agent having potential toxicity is anticipated; (i.e., carcinogens).

Components for a comprehensive preplacement physical examination may include, but are not limited to:

a. A personal and family medical history.
b. An occupational history (see Appendix for sample form).
c. A reproductive history for female employees (see Appendix for sample form).
d. The appropriate screening tests:
  - height/weight
  - vision testing (base-line)
  - complete urinalysis
  - chest x-ray (base-line)
  - liver function studies (as indicated)
  - pap smear
  - blood pressure
  - hearing testing (base-line)
  - lung function studies (spirometry)
  - blood tests for hemoglobin (CBC, hemotocrit, and selected SMA

chemistry for occupational exposures)
- EKG
- breast examinations

e. The appropriate assessment procedures:
- physical assessment of body systems
- skin assessment
- smoking assessment
- nutrition assessment

It is important that all new employees provide an occupational history, as a data base for past employment and cumulative exposures. The form should be completed by the worker with assistance from the nurse or a knowledgeable assistant. However difficult for the employee to recall, the data not only assist the employer with placement, but provide additional protection for the employee and evidence that base-line data has been collected for considerations (diagnosis) of future occupational exposures.

It is equally important to discuss all of the findings from the medical examination of the new employee with him so that he knows and understands the significance of the findings. Every opportunity should be available to the new applicant to correct deficiencies and to be re-examined for employment. Employees with difficult health problems who cannot fulfill the demands of the job should be counseled and referred to appropriate resources. (See the Rehabilitation Act.)

Periodic Health Assessment and Medical Monitoring

Periodic examination or health assessments are performed at intervals to evaluate the health status of the individual in relation to his work. Some employers base the need upon age-related schedules (i.e., annually after age 40). Some periodic assessments are required by OSHA Standards to safeguard against adverse health effects from exposure to specific materials or processes. The frequency and nature of the assessment should be determined from the basic health status of the worker, the type of hazard and exposure, the results from environmental monitoring, and the recorded findings of previous health assessments. The need for assessments may range from a repeat of the comprehensive medical examination to selected clinical laboratory or health screening tests, as indicated by the type and severity of the exposure or as required by the OSHA Standards.

In general, periodic assessments and special medical monitoring must be conducted at appropriate intervals to determine that the employee's health is compatible with his job. Periodic examinations should also help the employee maintain the optimum health necessary for effective performance and minimize sick absence.

Certain examinations are required in industries by regulations under the Act. Each OSHA Standard for a toxic or carcinogenic agent will state specific clinical tests and measurements that should be performed on special groups of workers. The OSHA standards also state the required frequency of examinations and measures to inform the employee of test results that require a job transfer. Records are also required for both health and environmental measurements.

Medical monitoring may be performed on the employee at the worksite (e.g., if the individual is required to wear a personal dosimeter or an electrode for a particular measurement), within the plant medical department, in outside clinics or laboratories, or in a combination of these resources. Appropriate medical and environmental follow-up and corrections should be made for health problems such as hearing and vision defects, dermatitis, allergic conditions, and other work-related problems.

Environmental monitoring at the worksite is often ongoing. Results of these findings should be available and accessible to the medical personnel. When the results exceed the OSHA standard for safe performance, steps must be taken to further protect the employee (as in the need to wear a respirator), but only until the environmental exposure is reduced to a safe level.

Return from Illness/Absence Assessments

Employees returning to work following an illness or injury should be re-evaluated to assure their continued compatibility and fitness for their regular jobs. Temporary reassignment of an employee to a less demanding job may be necessary. (See Absenteeism Control.)

Job Transfer Examinations

Examinations are conducted when an employee or a group of employees are transferred into an operation having known hazardous exposures. Specific tests, clinical measurements, health assessment, and medical monitoring should be implemented to assure adequate protection for the transferred worker.

Separation, Termination, and Retirement Examinations

Postemployment examinations provide an accurate health record which may help assess the relationship of any future medical problems to work or exposure in the establishment. This is particularly applicable to those conditions which are chronic or may have a long latency period such as exposures to asbestos, beryllium, silica, carcinogens, radiation, and heavy metals. Medical records under these conditions must be maintained according to the Act.

Multiphasic Screening

A multiphasic screening program is an extension of the health assessment program. The purpose of the screening program is not to replace the preplacement assessment or medical monitoring examinations, but to aid in case findings and in the early detection or recognition of disease processes in certain groups of healthy people. Screening for the detection of hypertension, diabetes, or tuberculosis are examples of preventive programs for the benefit of all workers in the plant. A critical point is the action taken after a positive result from the screening test. Prompt referral and follow-up services are necessary to assure that the employee enters the health delivery system, especially if the health maintenance services cannot be provided in-plant.

Nursing Responsibilities in the Physical Examination Program

The nurse's responsibility and participation in the physical examination program are important and highly significant in current nursing assessment programs. The activities will vary, depending on whether the examinations are conducted totally in the plant, with supplementary services available in the community, or outside the plant.

When the examinations are given in the plant, the nurse:

1. Plans and schedules examinations.
2. Conducts the health interviews.
3. Completes the occupational history forms.
4. Collects, records, and reviews the health data.
5. Assists with screening activities.
6. Performs some clinical laboratory tests and measurements.
7. Alerts the examining physician of positive findings and deviations from previous findings.
8. Interprets positive findings to the employee and discusses the need for additional follow-up.
9. Maintains the health record and additional medical files.
10. Plans for referrals as necessary.
11. Uses the preplacement physical examination to introduce and orient employees to the medical department and health services available.
12. Uses every opportunity to teach good health practices and encourages new employees to discuss health problems.
13. Collaborates with the personnel and safety departments to assure proper placement based on the job demands, both physical and emotional.

Nurses who have acquired physical assessment skills may perform many of the body system examinations as part of the expanded role of the nurse which is discussed at the end of this chapter. When an examination is conducted outside of the plant, the nurse should obtain a copy of the physician's report for the employee's file. The nurse should have the authority to explain certain physical findings to the employer when necessary, especially if the job requirements are not compatible with the employee's current health status.

Where medical monitoring and periodic health assessments are necessary or required by the Act, there are many implications for nursing. The nurse will continue to repeat many of the clinical tests and measurements required if they can be done in-plant, for example:

- audiometric testing,
- vision testing,
- collecting samples of blood, urine, or sputum for biological monitoring,
- conducting nutrition and skin assessments,
- planning repeated chest x-rays, EKG's, pulmonary function tests, liver-function studies, etc., and
- assisting with environmental monitoring procedures when necessary.

SUGGESTED READINGS

Books:

Schilling, R. S. F., Ed. Occupational Health Practice. 1973. Butterworth and Company, Ltd., London.

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Brown, M. L. OHN: Emerging Keystone of Plant Medical Surveillance. March/April, 1976. Occupational Health and Safety, 45(2):14.

INDUSTRIAL MEDICAL RECORDS

Objectives and Criteria

"Industrial medical records should provide data for use in job placement, in establishing health standards, in health maintenance, in treatment and rehabilitation, in workmen's compensation cases, in epidemiologic studies, and in helping mangement with program evaluation and improvement. In addition, recordkeeping requirements of the Occupational Safety and Health Act of 1970 should be met.

"To reach these objectives, criteria should be set up for deciding what items should be included on a medical record form. The following questions will help in making such determinations. Is the information called for important? Can it be obtained with reasonable facility and accuracy? Will the yield justify the cost and inconvenience of obtaining the information? And, probably most important, will the information be used?

"Basic principles and requirements of medical recording demand the simplest forms and systems adequate for the purpose the records are to serve. The system should be usable by the smallest medical unit or by the occupational health nurse who works alone, and should serve as a valuable tool in the everyday maintenance of health and safety. The data recorded should be sufficient to attain the desired objectives, and if these data are to lend themselves to reliable statistical comparison and analysis, the description of facts and findings must be uniform. The above minimal requirements should be complied with, whether the company is large or small, but with necessary modifications in specific occupations and industries."*

The occupational health nurse assists management in the development of a system to record and maintain health records and reports that conform to, and complement, existing communication systems within the plant.

Medical Record Forms

Individual Record of Injury/Illness

Each worker's folder shall have records of occupational and non-occupational injuries and illnesses, and occupational health examination records and reports. This filing method makes it possible to maintain a comprehensive and chronological system on every worker. The nurse and physician can readily be alerted to health problems or idiosyncrasies including drug allergies, occupationally related sensitivities, or chronic conditions. The system will provide evaluations of visits to the health unit for occupational and non-occupational conditions.

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*The above statements on objectives and criteria are quoted from the American Medical Association, Guide to Development of an Industrial Medical Records System (see Suggested Readings).

The purpose of the Individual Record Form is to provide a record of the diagnosis, treatment, and progress of all occupationally related cases.

The nurse records occupational incidents on a single-entry form, which is of value to workmen's compensation, the safety personnel, and as a medicolegal record. Each occupational accident, no matter how minor, should be recorded by the nurse or by the first-aider during the nurses's absence. However, the nurse shall review all of the entries on the OSHA Form 200, when made by the first-aider.

All visits to the health unit for non-occupational reasons should be recorded on the same form, but should only be accessible to those persons approved by the health unit personnel. Information about non-occupational conditions shall be regarded as confidential and will not be given to personnel, a supervisor, or anyone without the employee's written consent.

In the AAOHN Nurses Code of Ethics a statement on confidentiality of employee's health records reads, "occupational health nurses should: . . . safeguard the employee's right to privacy by protecting information of a confidential nature; releasing information only as required by law or upon written consent of the employee."

Health Examination Records

The health examination records and the health history must be considered in confidence between the employee and the physician. Some of the information will be needed by the employer to determine the individual's ability to perform a specific task. The employer, however, should not be given details of the individual's physical and mental condition.

Results of all physical examination reports, clinical reports, chest x-rays, EKG's, audiograms, etc., become part of the record and should be filed in the employee's health folder. Other reports of individual nature are also filed in the health folder, (e.g., communications from personal physicians, immunization records, insurance forms from workmen's compensation cases, etc.).

Administrative Records and OSHA Forms

Recordkeeping requirements under the Act shall be enforced. Regulations issued by OSHA under the Act require that all establishments, subject to the Act, maintain records of occupational injuries and illnesses occurring on or after July 1, 1971.

As of January 1, 1978, the OSHA Form No. 200, Log and Summary of Occupational Injuries and Illnesses, combines and supersedes Form No. 100, Log of Occupational Injuries and Illnesses, and Form No. 102, Summary of Occupational Injuries and Illnesses for Calendar Year. Form No. 101 is unchanged.

The OSHA forms contain definitions and instructions for completing them. OSHA recordkeeping requirements should not be confused with state workmen's compensation requirements. It is wise to have the company's medical records reviewed by someone in the OSHA Regional or Area Offices. All OSHA forms can be obtained from the OSHA Area Offices and it is important to be aware of changes in OSHA forms. For locations of the OSHA Regional and Area Offices, see the Appendix.

Other administrative records commonly used in the health unit are:

1. A statistical census of daily activities of the occupational health personnel.
2. A monthly summary of daily activities.
3. An annual summary of yearly activities. It should highlight achievements and objectives met by the occupational health program and is a basis for evaluating the health service. Budgetary needs for personnel, equipment, and improving programs could be integrated into the annual report. Summaries of reasons for employee illness/absence could also be included.

Miscellaneous Reports

Additional records and reports are most often developed as the need arises; however, some reports are regulatory.

- The Narcotic Record must be kept because government narcotic regulations require a strict accounting of all narcotics used.
- Local municipal codes and regulations, such as inspection reports of steam sterilizing vessels or food service inspections, are included.
- Other reports may be from referral services, medical consultants, or on professional staff activities within the community.

Storage and Accessibility

The medical records should be maintained in locked files in the health unit; and only the physician or nurse should have access to them. In certain situations under the Act, requests for specific information may be sought by authorized government officials from NIOSH and OSHA. Also, the employee or his designated representative may seek information concerning himself or his environmental exposure. The employer's policy must comply with the regulations set by the Act.

Coding medical records for data processing has great value. Recording the diagnosis of individuals should be made using the "Standard Nomenclature of Diseases and Operations," 5th Edition, and/or the International Classification of Diseases.* This insures accurate data for legal purposes, in epidemiological research, and in planning for program evaluation and improvement.

Problem Oriented Medical Records (POMR)

The problem oriented medical record system provides use of the problem oriented record by all members of the health care team. Dr. Lawrence L. Weed pioneered the system in the 1950's and his efforts have gradually been accepted by medical and nursing groups.

Although the system is not currently being used in the majority of plant medical departments, the new occupational health nurse may want to implement and integrate the Problem Oriented Nursing System (PONS). A nurse who is familiar with PONS and wishes to develop a system for recording could initiate its concepts into the industrial medical records system. The nursing audit, nursing care plan, employee needs, and valid documentation could show effective results. An employer may find that the PONS initiated by a nursing service is beneficial for total patient care.

Nursing Responsibilities in Recordkeeping

1. Record every visit by employees to the health unit in ink; date and sign it (code as necessary).
2. Document clearly and accurately.
3. Identify anatomical parts correctly.
4. Use employee's own words to describe the incident.
5. Maintain confidentiality at all times.
6. Understand and comply with third party interest in seeking information for valid, legal purposes.
7. Maintain the record system for a period of time dependent upon acceptable medical practice, legal requirements (especially according to OSHA Standards), and also for research needs.

SUGGESTED READINGS

American Medical Association. Guide to Development of an Industrial Medical Records System. 1972. American Medical Association, Chicago.

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*Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics. Eighth Revision International Classification of Diseases. ICDA, Vol. I, Tabular List. Adapted for use in the United States. U.S. Government Printing Office, Washington, D.C.

Ganong, J. M., and W. L. Ganong. Nursing Management (Chapter 2). Aspen Systems Corporation, Maryland.

United States Department of Labor, Bureau of Labor Statistics. Recordkeeping Requirements Under the Occupational Safety and Health Act of 1970, Revised Edition. 1975. U.S. Government Printing Office, Washington, D.C.

United States Department of Labor, Bureau of Labor Statistics. What Every Employer Needs to Know About OSHA Recordkeeping. 1972. U.S. Government Printing Office, Washington, D.C.

Weed, L. L. Medical Records, Medical Education, and Patient Care. 1969. Year Book Medical Publishers, Inc., Chicago.

Weed, L. L., et al. The Problem Oriented Medical Records: A Supplement. 1969. Case Western Reserve University Press, Cleveland.

PREVENTIVE HEALTH PROGRAMS

Health maintenance, health promotion, and preventive health programs are terms that overlap and may have different meanings or emphasis. "Preventive medicine may be defined as that part of medicine concerned with the advancement of the purpose of promoting health and preventing illness."* Similarly, The World Health Organization defines health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Preventive health programs in the occupational setting cannot easily be distinguished from general health delivery, although accident and disease prevention is basic to any occupational health program.

The section on physical examination programs discussed the detection of illness and disease through programs of health assessment, multiphasic screening, and specific medical monitoring for occupational disease control. Follow-up procedures on positive findings from screening programs are essential. Results from a multi-phasic screening program should be analyzed as the basis for establishing preventive health programs for specific diseases. By using epidemiological principles, groups of workers can be identified and encouraged to participate in programs to improve the current, and possibly poor, health habits. Many preventive health programs are now established programs in industrial medical departments, for example:

- hypertension screening,
- weight reduction,

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*Duncan, C. W., and B. MacMahan, Eds. Preventive Medicine. 1967. Little, Brown, and Company, Boston.

- physical fitness,
- stop-smoking clinics,
- alcoholism control,
- retirement planning,
- diabetes detection, and
- sickle-cell anemia detection.

Basic principles for program planning can be readily adapted to occupational health. Suggested principles for program planning are:

1. Identify and define the problem.
2. Determine a statement of need.
3. Establish long, intermediate, and short range goals.
4. Develop a program plan.
5. Establish resource needs for time, funds, personnel, facilities, equipment, and supplies.
6. Determine costs and benefits.
7. Secure budgetary allocations for specific programs.
8. Implement and operate the plan.
9. Provide for feedback.
10. Evaluate program results.

For the purpose of this Guide, this section will emphasize the need for specific health-planning programs to identify the health status and health needs of the plant employees. It is not possible to include every preventive health program for desired health maintenance. Therefore, emphasis has been placed on hearing and vision conservation programs, health and safety education programs, and health counseling. In addition, programs to assist in controlling absenteeism and in disaster planning are considered as preventive health programs. These guidelines for health planning are not necessarily presented in order of priority, but all are basic to the health needs of a working population.

Health Counseling

In the important service of health counseling, the nurse must recognize the various physical, emotional, and social problems that can affect the employees' health. Employees should feel that they can discuss their problems with the nurse without fear of jeopardizing their employment.

The counseling session should be held in a quiet place and at a quiet time so that workers can discuss their problems freely. When working with employees, particularly in health counseling, the employees' supervisor should know that the worker is visiting the nurse for assistance and the nurse, in turn, understands that the supervisor may limit the interview session to keep workers on the job. Although employees themselves may seek out the nurse to discuss health or personal problems, they are often sent to the health unit by the foreman or supervisor.

Workers' emotional problems are generally not severe enough to be diagnosed as psychiatric disorders and many workers may have psychosomatic symptoms. The problems often are reflected in absenteeism, alcoholism, and accidents. Work related problems to both employers and employees can arise from labor turnover, waste, low production, profit loss, compensation claims, low morale, and poor interpersonal relationships. Causes of work related emotional problems are receiving greater attention today than in the past. For example, stress and job demands are being studied and analyzed by behavioral scientists; and the social, psychological, and physical adjustments to shift work are undergoing scientific investigation. A recently completed NIOSH investigation (Tasto and Colligan, see Suggested Readings) suggests that shiftworkers have significantly more difficulty adapting to their work schedules than workers on permanent day shifts. Sleep patterns, digestion, psychological mood, and personal, social, and domestic activities were especially disrupted by non-day shift regimes. Rotating workers, who not only work at unconventional hours, but who move from shift to shift, clearly encounter the most difficulty in maintaining psychological and biological equilibrium.

Preventive health programs for alcoholism and drug addiction are widely accepted by employers as essential and productive. Women are entering the labor force in rapidly increasing numbers; many accepting blue-collar jobs. Role conflict and variances in role perception create dissatisfaction among both sexes. Stabilizing and equalizing the emotional health of workers requires the services of persons with expertise in mental health.

The occupational health nurse should acquire skills to recognize employees who show signs of stress, anxiety, depression, hysteria, addiction, hostility, and irrational behavior. Determining the severity of the problem and making decisions for specialized care require knowledge of mental health concepts.

Employees who discuss feelings and attitudes with the nurse can often return to the job feeling some relief after the counseling session. Whether or not the employee's emotional problem is work related, the nurse can use interviewing skills in the counseling session to understand the employee's personal needs and provide constructive help. Counseling is more effective when the nurse helps individual employees see their problems more clearly and encourages them to make their own plan to resolve the burden. The effectiveness of these sessions will also depend upon the ability of the nurse to recognize the need for referral to specialized care. The mental health specialist in a health agency or community mental health center can be an excellent source of consultation to the nurse in industry.

SUGGESTED READINGS

Books:

Basset, G. A. The Problem-Employee Interview, Number 4. 1975. American Management Association Communications (AMACOM), New York.

Levinson, H. Emotional Health in the World of Work. 1964. Harper & Row, New York.

Trice, H. M., and P. M. Roman. Spirits and Demons at Work: Alcohol and Other Drugs on the Job. 1972. New York State School of Industrial and Labor Relations, Ithaca.

Other References:

Baughn, S. L. The Role of the Nurse in Dealing with Stress in the Industrial Setting. April, 1976. Occupational Health Nursing, 24(4):15.

Brown, M. L. The Extended Role of the Nurse in Occupational Mental Health Programs. December, 1971. Industrial Medicine and Surgery, 19:13.

Ede, L. Legal Aspects of Occupational Mental Health Nursing. January, 1973. Occupational Health Nursing, 21:12.

Guida, M. The Occupational Health Nurses' Role in the Corporate Alcoholism Program. March, 1976. Occupational Health Nursing, 24(3):22.

Loesch, L. C., and N. A. Loesch. What Do You Say After You Say Mm-hmm? May, 1975. American Journal of Nursing, 75(5):807.

Peplau, H. E., Ed. Basic Principles of Patient Counseling, 2nd Edition. March, 1966. Smith, Kline, and French Laboratories, Philadelphia.

Salatti, R. A. The Occupational Health Nurse as a Mental Health Counselor. December, 1976. Occupational Health Nursing, 25(12):23.

Tasto, D. L., and M. J. Colligan. Health Consequences of Shift Work. 1978. DHEW (NIOSH) in press. U.S. Government Printing Office, Washington, D.C.

Also, a NIOSH course, The Occupational Health Nurse and Employee Mental Health, is offered by University schools of nursing in cooperation with their departments of continuing education. Applicable to occupational health nursing practice, the three-part training program includes areas of academic mental health concepts, interviewing and counseling skill developments, and crisis intervention in special problem situations. For further information, contact NIOSH, Division of Training and Manpower. (See Appendix for address.)

Program for Absenteeism Control

Astronomical numbers of days lost due to illness/absence as published by many sources highlight the seriousness of the absenteeism problem to American industry and the American labor force. Employers are increasingly aware of the direct and indirect costs due to a high rate of absenteeism. Management policies must be established to prevent and control absenteeism. To carry out such a policy, the employer will use the resources most intimately involved: the supervisor and the medical department. The personnel department or the timekeeper can collect statistical data on the frequency of absenteeism.

A system of recording who is absent and why is necessary in the medical department or health unit. A daily absentee list should be compiled with information recorded by department, reason, number of days out, and days returning to work. For the system to work, supervisors, foremen, time clerks, and the personnel department must coordinate the reporting of absenteeism through the medical unit.

Statistics on absenteeism are important as indicators of trends. At frequent intervals, managers and employers should be provided interpretations of the data collected so that meaningful comparisons can be made between groups by age, sex, marital status, length of time on the job, and past absentee experiences. Absences due to vacation, military leave, holidays or lay-offs should not be included.

Experts in the field of personnel management list some observations from their own experience: "Absenteeism is higher in new plants, in plants requiring a considerable amount of overtime, in communities having a tight labor market, is higher among women in child-bearing ages (however the absenteeism is of shorter duration than that of male workers); is higher on the second shift and is highest on Mondays."*

Most experts agree that a small proportion of employees account for a large proportion of illness/absence. The principal causes of absenteeism are:

- physical or mental illness,
- personal work or living habits,

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*Jacoby, G. A. Absenteeism and Mental Health. April, 1967. An unpublished report from the Governor's Occupational Health Conference, Lexington, Kentucky.

- a sense of inequity related to pay or working conditions,
- placement of personal concerns higher in priority than business needs, and
- poor job design, lack of incentive, and boredom.

A control program for non-occupational health problems allows nursing intervention for counseling, advising, and providing emotional support for the employee who leaves work because of illness and returns to work after an absence. The skillful nurse can win the confidence of the employees, and acquire considerable influence from the relationship after years of long associations with them.

The Occupational Health Nurse can:

- interview the employee when he leaves the plant because of illness,
- assess the employee's need for prompt medical care,
- be assured that the employee can reach his destination safely, and if not, provide supervised transportation (for example, when the person feels "faint" or "dizzy" he should be escorted home, or to the doctor's office or hospital),
- encourage the employee to report back to work through the health unit,
- be certain that the employee's supervisor knows the employee is leaving the worksite, and
- show genuine concern for the employee's condition.

Controlling Non-Occupational Absences

A company policy that has proven a sound control measure is one which stipulates that if a worker has been off sick a certain number of days, he must report through the nursing service before returning to his job assignment. In many instances, a medical certificate from the worker's personal physician is necessary evidence that the illness required medical care, especially after a five day or longer absence. However, the medical certificate is ineffective if the physician is not specific about the physical demands of the job in relation to the worker's current health status.

For absenteeism from both occupational and non-occupational illness or injury, the health unit becomes the major source of determining whether or not the employee can return safely to his regular job. Employee illness or injury requiring hospitalization is usually well documented by the insurance claim of the company's group medical insurance plan. It is good policy to include a copy of the final diagnostic report in the worker's medical file.

Depending upon the company's policy, workers returning from a five-day (non-occupational) illness may be required to have a complete physical examination if one has not been completed within the past year. This frequently proves to be a positive reassessment of the worker's health and often uncovers additional health problems and the need for continued health surveillance. Close liaison with the worker's private physician is essential.

If you are the only nurse in a small plant, there are many opportunities to assess the employee's health status and ability to perform the job after returning to work. The occupational health nurse can use skills to assess normal or routine problems and refer the more complex problems to the plant physician or to the consulting physician.

Routinely, the nurse must:

- interview the returning employee to be aware of the reasons for absence,
- record any observable changes in physical status,
- review the health record for any past absences or illnesses to determine a chronic condition or untreated problem,
- if necessary, inform the worker's family physician that the patient is ready for the assigned work,
- provide counseling if absence was due to non-pathological reasons (i.e., emotional problems, family problems, personal conflict, addictions, etc.),
- use every opportunity to teach good health practices,
- suggest additional consultation if specialized care is required, and
- inform the employee that you and his/her supervisor may have to discuss reasons for repeated absence.

Prevention of Absenteeism

Prevention is an integral part of the total absentee control program. Good morale, job enrichment, and worker satisfaction are results of effective management and personnel policies, while preventing disability and promoting optimum health are basic components of occupational health. Management and health personnel should work together to prevent and reduce absenteeism.

Routine physical examinations, medical surveillance, health maintenance, environmental controls, and health and safety education programs, when properly executed, will have an effect on absenteeism only when employees have trust and confidence in the health professionals providing the services. Health indexes of the worker population can be measured if adequate health, safety, environmental, and absentee records are maintained and analyzed. Reduction in disability claims and direct and indirect costs of illness/absence should become visible.

SUGGESTED READINGS

Ahern, M. S. The Occupational Health Nurses' Role in Absentee Control. How to Collect and Provide Meaningful Data. May, 1968. American Association of Industrial Nurses Journal, 16:7.

Committee on Medical Care for Industrial Workers, Archives of Industrial Health. A Syllabus on Work Absence. January, 1956. The American Medical Association, Chicago.

Program for Disaster Control

Every industrial organization should have a written plan for the care and safety of personnel during both external and internal disasters. The goals of a disaster plan are to prevent or reduce injuries, save lives, minimize property damage, and expedite the resumption of necessary plant activities.

Pre-planning for emergencies combines the efforts of management, production, personnel, security, safety, and the health unit. The disaster plan should be developed in conjunction with other emergency facilities in the community and with local civil authorities. The plan for disaster must not only be written, but must also be made available to anyone who has any responsibility for the coordination, implementation, and execution of the total plan.

In-plant and community disasters result from fire and explosions, floods, hurricanes and tornadoes, earthquakes, civil strife, wild-cat strikes, and warfare, including nuclear disaster. The problems and solutions differ considerably according to the geographical location of the industry. In this Guide, program considerations are briefly discussed as basic components of a good disaster plan. References are listed for more detailed considerations.

The disaster plan should include corporate direction with assigned personnel having specific responsibilities. Training, refresher training, demonstrations and practice, and an evaluation of the practice results are essential. Control centers and shelter areas should be equipped with first-aid supplies, drugs, dressings, stretchers, and resuscitators. These emergency supplies must be checked periodically for expiration dates, sterility, and loss or theft.

Communication and alarm systems should be a vital part of the plan. Plant protection personnel, security guards, fire-fighters, trained first-aiders, stretcher-bearers, doctors, nurses, and other allied health persons, including the safety specialist, should be assigned specific duties. It is wise to teach all employees the basic principles of self-help for an emergency.

The director or coordinator should enlist all existing help from the outside community and also offer the plant facility as a resource to a community plan for disaster (i.e., additional fire-fighting equipment). Collaboration and coordination with the local fire and police departments, the Red Cross, life squads, and local hospital emergency rooms are necessary to ensure immediate life-saving actions.

The scope of the medical disaster plan will vary, depending upon an estimate of casualties, the size of the plant, the available medical facilities, and the availability of community emergency life-saving services.

The new nurse in industry must:

1. Understand and assume the obligation to protect the life and health of the employees on the job from the effects of a disaster.
2. Participate in the development and implementation of a specific company plan to meet the survival and health needs of the employees.
3. Advise management and the medical director about nursing needs and plans for disaster control.
4. Select and maintain the medical/surgical equipment and supplies for emergency chests suitable for transportation to a disaster site.
5. Coordinate the industrial plan with the local community plan.
6. Assist in evaluating the effectiveness of the plan.
7. Assist in teaching employees self-help and life-saving procedures.
8. Encourage employees to identify special health needs by wearing Medic-Alert emblems.

SUGGESTED READINGS

Books:*

Fawcett, H. A., and W. S. Wood. Safety and Accident Prevention in Chemical Operations. 1965. John Wiley and Sons, New York. pp. 527-536.

National Safety Council. Accident Prevention Manual for Industrial Operations, 6th Edition. 1969. National Safety Council, Chicago. pp. 1111-1141.

Other References:

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*Pages are given when references include relevent portions only.

American Medical Association, Council on Occupational Health. Guide to Developing an Industrial Disaster Medical Service. 1970. American Medical Association, Chicago.

Industrial Association's 1959-1960 Committee on Emergency and Disaster Planning. Outline of a Disaster Control Plan for Industry. September, 1960. Journal of Occupational Medicine, 2(9):451.

Program for Health and Safety Education

An Introduction to Health Education

"Health education is not new to nursing; it is an integral part of nursing practice. Professional nursing has always promoted intervention to aid individuals to attain their optimum level of health. Nursing actions have been and are directed toward the prevention of diseases and their complications, toward the promotion of an early return to the activities of daily living, toward minimizing disability from chronic illness or injury, and toward the maintenance of a realistic adaptive state of illness. Knowledge essential for prevention of, and adaptation to, disease is taught both formally and informally to individuals and groups by nurses.

"As a health care provider, every professional nurse is responsible and accountable to the patient and family for the quality of nursing care the patient receives. This responsibility and accountability includes teaching the patient and family relevant facts about specific health care needs and supporting appropriate modification of behavior. Within the last five years, definitions in some licensure laws have specified the teaching of patients as a nursing responsibility.

"Consumers and health care professionals are increasingly aware of the role of health education in promoting a better quality of life. Health education activities have expanded from the prevention of infectious disease and the teaching of principles of hygiene and safety to the teaching of skills that are necessary for individuals and groups to maximize their level of health, as well as the dissemination of knowledge on how to reduce risk factors leading to chronic disease and how to manage a chronic disease or disability.

"Health education is the communication of facts designed to provide a knowledge base for health activities which are aimed at increasing the ability of consumers to make informed decisions affecting their personal, family, and community well-being. The health education process which incorporates intellectual, psychological, and social dimensions, is based on scientific principles, and facilitates behavioral change. The needs for health education vary with age, geographic location, culture, health status, family composition, roles, life-styles, and resources.

"Patient education is one facet of health education which is designed specifically for recipients of preventive, diagnostic, therapeutic and/or rehabilitative services. For example, patient education assists an individual to understand his disability, to cope with symptoms, to prevent complications, and to make contact with other sources of health information."*

Opportunities for health and safety education in the occupational health setting, both formally and informally, are unlimited. You, the occupational health nurse, are in a key position to actively participate in planning and implementing programs to promote general health maintenance and safe and healthful work practices for all plant personnel. The health education program should be based on assessment of employee needs, joint planning with other members of the occupational health team, implementation of the program with appropriate teaching media, and evaluation techniques to measure the effectiveness of the program.

Informal Health Instruction

The one-to-one teaching/learning relationship is most acceptable for direct health instruction. This method provides the nurse additional opportunities to observe the person seeking advice and it enhances the nurse-patient relationship. The setting for the informal approach can be anywhere and at anytime — during the preplacement physical examination or orientation to in-plant health services, at the time of an injury, on returning from an illness/absence, or during the nurses' plant visits.

Subject information may include occupational or non-occupational health and safety matters. The nurse must be prepared educationally to provide expert and current knowledge about the subject. If you are limited in your ability to communicate unfamiliar facts, refer the problem to someone with more expertise.

Formal or Group Instructions

Group meetings for health education can be effective since they provide an opportunity for individuals to participate in discussions. Such meetings may be held for all employees or for small groups with specific interest, like weight reduction or stop-smoking projects. A management-employee committee will be useful in planning group meetings to advise the nurse of special interest subjects. Health education programs may fail because they have been based on topics that management chooses, sometimes without consideration for the employees' interests. Assessing the educational needs of the employee group is a necessary planning operation.

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*American Nurses' Association, Division on Medical-Surgical Nursing Practice and the Division on Community Health Nursing Practice. The Professional Nurse and Health Education. November, 1975. ANA Publication Code: VP-483000, American Nurses' Association, Kansas City.

Films and other audio-visual media may be used successfully in group education. To be effective, they must be carefully selected, shown with technical efficiency, and supplemented with discussion and interpretation. Films are available from various sources (see Appendix). The nurse should be familiar with each film and be prepared to lead a group discussion. Posters, bulletin board displays, and the company paper are also useful media. Attractive pamphlets on many health subjects are available from public and voluntary health agencies at national, state, and local levels. Insurance companies, professional associations, and governmental agencies also make pamphlets available.* Every health unit should have an attractive, well arranged pamphlet rack displaying take home material of special interest to the worker. However, printed material must be reinforced by the professional health person's making use of educational methods to effect learning and behavioral change.

Evaluating the success of the health education program is difficult. Some ways to measure the effectiveness of a program are:

1. Use questionnaires, completed by the employees, which ask what information source influenced them or how effective "take home" pamphlets were.
2. Compare sickness/absence insurance rates from the onset of the program to the present.
3. Observe whether employees show increased interest in continuing the program.
4. Note rate of requests for new information.
5. Observe behavioral changes. For example, a yardstick evaluation of an effective health education program developed to influence workers to stop smoking would be an increase in the number of "I Quit" buttons worn by employees.

Safety Education

Although safety education is generally accepted as an integral part of health education, in this Guide for the nurse new in occupational health, safety education will be treated with special emphasis. Section 21 (a, b, and c) of the Act is concerned with training and employee education. It charges the Secretaries of DHEW and DOL with responsibilities for programs to teach the importance of, and proper use of, adequate safety and health equipment; to educate and train employers and employees in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions; and also to qualify personnel to instruct the employers and employees.

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*For sources of health and safety education, see the Appendix for national health and safety organizations which provide a variety of services and materials useful for health and safety education programs.

For example, the OSHA Standards for the protection of workers handling or exposed to carcinogens list specific training requirements that must be carried out in any plant using a suspected cancer-causing agent. Employers are responsible for educating their employees about carcinogenic hazards and the precautions to be taken. Each standard for a carcinogenic agent specifies the training and education to be provided.

The plant nurse must be involved in, and have some responsibility for, training and education programs as required by OSHA. You will have to learn more than the employee is required to know about specific hazardous agents, the types of hazards, the operations more likely to produce hazardous exposures, the need for a medical surveillance program, decontamination practices and goals, and first-aid or emergency procedures because you will have to teach employees how to protect themselves and you will have to interpret the safety program to the workers.

Teaching and motivating employees to use personal protective equipment, clothing, and devices is difficult. However, nurses have a great influence on the attitudes of workers towards accepting changes. Very often the occupational health nurse is the only health professional in the plant and must assume the function of teacher, trainer, inspector, recorder, and reporter of work conditions. The safety education and training program is continuous and should be evaluated periodically to ensure that employees exposed to toxic substances, for example, have current knowledge of job hazards. Collaborating with the occupational health team available within the plant or with specialists in the community to evaluate the programs is a nursing responsibility.

In addition to complying with OSHA regulations for training and education in safety, the nurse is able to assess the safety needs of employees through observation, interviewing, and analyzing records and reports; identify patterns of accidents by departments and occupations; communicate unsafe working conditions to proper authorities; and maintain a safe work environment within the occupational health unit. Also, the nurse should be a member of the safety committee. Membership in the employee association and involvement in community projects having safety implications for off-the-job safety are also advisable.

SUGGESTED READINGS

American Nurses' Association, Division of Medical-Surgical Nursing Practice and the Division of Community Health Nursing Practice. The

Professional Nurse and Health Education. 1975. Publication Code VP-483000, American Nurses' Association, Kansas City.

Anderson, R. C., and G. W. Faush. Educational Psychology, the Science of Instruction and Learning. 1973. Dodd, Mead, and Company, New York.

Program For Vision Conservation

A planned Eye Health and Safety Program uses a multidisciplinary effort to prevent blindness, protect and conserve vision, promote eye health and safety, and assure that workers are placed in jobs where visual safety requirements can be met. Goals and objectives for the program should include the views of management, labor and production, personnel, and the safety and health team. Each discipline has assigned activities, delegated responsibility and authority, and policies and procedures to be implemented. A method to evaluate the effectiveness of the program is also essential.

A primary goal of the vision conservation program is to protect the eyes and prevent eye injuries to employees at work. The OSHA Standards, Section 1910.133, Eye and Face Protection, makes the use of personal protective equipment mandatory when, in the opinion of the employer, its use is necessary for the prevention of injury. But to comply with the intent of the OSHA Standards, a total program for eye health and safety should be initiated.

The vision conservation program should:

- test vision initially on employment and retest vision periodically,
- assure that employees are not assigned to jobs whose visual requirements they cannot meet,
- provide in-plant eye care services,
- identify early signs and symptoms of eye disease and visual disorders,
- initiate prompt referrals for specialized eye care,
- teach eye health and safety, and
- protect and safeguard vision by providing proper eyewear.

The occupational health nurse cannot enforce the use of safety eyewear. Only management can enforce the practice of wearing safety glasses or goggles in compliance with OSHA regulations for all workers, shops, and departments, where applicable. The employer should also know that he is enforcing an efficient eye program. For instance, he may want to know that compensation costs for eye injuries can be reduced, or that prescribed eyewear conforms to standards (set by the American National Standards Institute, Standards for Eye Protection, Z-87.1, 1968, and adopted under the Act).

Vision Testing

Eye testing and vision screening may be done by the nurse or a technical person working in the health unit. There are available binocular instruments designed to test visual skills, and also the Snellen-type wall charts which determine visual acuity. The binocular instrument measures 12 parameters of vision: near and far monocular and binocular visual acuity, vertical and lateral phorias (muscle balance and eye coordination), depth perception, and color discrimination — all performed with and without corrective lenses. The choice of a vision screening instrument depends on the personal recommendations of the ophthalmologist or the plant physician. These instruments come with complete instructions and compatible recording systems. A sales representative may demonstrate its use, assist in setting up the program, and provide maintenance services for the units.

Two important components of a vision screening program are: (1) the recognition of abnormalities of vision, eye diseases, eye defects, and refractive errors; and (2) prompt referral and follow-up to correct the defect. Further, every employee should be given the opportunity to visit the eye specialist of his choice and be re-examined for a new evaluation.

Screening for Glaucoma

Early detection of glaucoma, by means of tonometry, is rapidly becoming an accepted and necessary part of industrial vision screening programs. At least two percent of the population 35 years of age and over (male and female) have increased intraocular pressure which must be controlled by medication. Eye examinations are no longer considered complete or adequate unless the intraocular pressure is measured with the Schiøtz or applanation tonometer. The industrial medical departments can provide mass screening for glaucoma. Many occupational health nurses have been trained to perform the tests. Others, because of their ability to handle routine emergency eye injuries, are quick to acquire the skill of performing tonometry and to understand the importance of making a prompt referral in the event of positive findings. A glaucoma detection program should be planned according to the basic policies and procedures for vision conservation outlined thus far.

Fitting Eyes to the Job

A major goal of the eye health and safety program is to ascertain that employees can meet the job's vision requirements. Vision demands of specific jobs should be part of the job description just as any other job requirement. The nurse in industry must be familiar with the visual requirements of the jobs. The employer must also feel certain that his workers are given the proper eyewear to use when performing certain jobs. For example, painters or carpenters who work overhead may need bifocals placed at the top of the lens instead of their normal corrective lenses. A machinist or a timekeeper whose work is within a straight distance may not need such an adjustment.

The Consultant Ophthalmologist

The ophthalmologist is a specialist in industrial vision protection. As your consultant he gives care, including emergency care, to those employees who have eye problems, and he accepts all referrals. If the cause is occupational, he determines the reason and the extent of the disability. He makes recommendations for program changes, writes specific orders for care and treatment to be followed by the industrial medical personnel, prescribes drugs and solutions, reviews the nurses' standing orders periodically, assists in training the nurse or other paramedical persons, and selects or recommends the vision testing equipment and matching record system according to the plant needs. The ophthalmologist knows and understands the harmful effects on vision of physical, chemical, or biological agents used in the plant. He must recommend practices for proper eye protection and make recommendations to prevent harmful exposures.

The Optician

The optician makes prescribed eye glasses and fits them, either in the plant or in his office. He makes readjustments and repairs and maintains the employees' eyewear. He does not treat eye problems or prescribe care.

Nursing Care for Eye Injuries

This Guide cannot attempt to teach the nurse how to provide emergency care for eye injuries. A new nurse without such skills should receive special training from an ophthalmologist, a skilled nurse in an eye clinic, or an emergency room, and should also seek continuing education courses on eye care.

Common types of eye injuries in the plant are floating or embedded foreign bodies, thermal and chemical burns, flashburns due to ultraviolet radiation exposures, contusions and lacerations, and conjunctivities (particularly a variety of conjunctivitis commonly known as "pink-eye"). Immediate care for an eye injury is imperative. The OSHA Standard, Subpart K, Medical and First Aid, 29 CFR 1910.151 c, states, "Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use."

General nursing procedures in the care of eye injuries should be stated in a written medical directive to include:

- preparing the patient for care,
- assembling materials for treatment,
- assessing the condition of the eye,
- providing the appropriate treatment,
- using specific ophthalmological drugs and solutions,
- recording data accurately, and
- providing continued care.

In 1972, the National Society for the Prevention of Blindness, Inc., (NSPB) with the assistance and cooperation of the AAIN, published a manual, "The Occupational Health Nurse and Eye Care," 2nd Edition. The manual is very complete and the nursing procedures should be adopted into the nurse's own policy and procedure manual. The NSPB also has available a statement of reasons why contact lenses should not be worn in the plant.

Nursing Responsibilities

In industry, the key person in the vision program is the nurse, who performs the vision tests, provides emergency eye care and follow-up care, instructs about eye disease, and teaches workers eye health. The nurse must also provide instruction to train first-aiders to give emergency care for eye injuries in her absence. The nurse collaborates with the safety department personnel on safety education programs, motivating workers to wear eye protective devices, and the availability and use of emergency eye fountains in the plant.

In addition, the nurse:

- receives written medical directives or standing orders from either the plant physician or the consultant ophthalmologist,
- reviews these orders periodically and is constantly alert for proper use or misuse of ophthalmological drugs and solutions,
- provides eye health and safety education,
- supports enforcement of the mandatory "eyewear" policy,
- refers special eye problems to the ophthalmologist,
- records and reviews eye injury records and reports, and
- checks and rechecks employees with known visual defects.

SUGGESTED READINGS

Pamphlets:

The National Society for the Prevention of Blindness, Inc. The Occupational Health Nurse and Eye Care, 2nd Edition. 1972. The National Society for the Prevention of Blindness, Inc., New York.

The National Society for the Prevention of Blindness, Inc. 1977 Catalogue of Publications and Films. 1977. The National Society for the Prevention of Blindness, Inc., New York.

Other References:

American Journal of Nursing. Patient Assessment: Examination of the Eye. Part I, November, 1974; Part II, January, 1975. American Journal of Nursing, Part I, 74(11):2039; Part II, 75(1):105. Reprints available from: American Journal of Nursing Company, Educational Series Division, New York.

Kiefer, N. C., and W. S. Braveman. Glaucoma: Experience with Tonometry in 909 Consecutive Employee Patients. March, 1966. Journal of Occupational Medicine, 8(3):95.

Lee, J. A. Eye Health and Safety Programs. October, 1970. Occupational Health Nursing, 18:7.

Nichols, J. E. Eye Safety and the Law. Fall, 1973. The Sight Saving Review, 43(3):148.

Vaughan, D. Common Ocular Disorders. October, 1971. Hospital Medicine, 7:22.

Program For Hearing Conservation

Noise is generally defined as unwanted sound. It is an inescapable component of modern, mechanized life and is one of the few hazards common to almost all industries. It ranks with air and water pollution as one of the great environmental dilemmas. The effects of noise on hearing has long been recognized: sources of hearing loss and other auditory damage are well documented in the scientific literature, and many studies have shown the levels and durations of noise that can cause such effects.

Occupational hearing loss is a slowly induced deafness produced by exposure to varying intensities of sound in the workplace, over a period of time varying from months to years. Hearing loss may also be instantaneous, such as that caused by a sudden, loud explosion which causes mechanical damage to the ear. Exposure to intense noise for an extended period of time causes hearing loss which is either temporary, permanent, or a combination of both. Hearing loss is referred to as either a temporary threshold shift (TTS) or permanent threshold shift (PTS). Temporary hearing loss means that the ability to hear will return to its pre-exposure level when the person is absent from the source of noise for a period of time. In cases of permanent hearing loss, however, the threshold shift remains permanent.

A disability arising from hearing loss results from the decreased ability to identify spoken words or sentences. Speech is composed of frequencies between the range of 250 to 3,000 Hertz (Hz). (Hertz is a unit of measurement of the frequency, sometimes referred to as cycles per sound (cps).) Hearing loss from repeated exposure to excessively loud noise usually occurs in the 4,000 Hz area. Since 4,000 Hz is higher than the frequency range of the normal spoken voice, an individual may suffer a decrease in hearing and not be aware of it. Such hearing losses are detected by instrumentation, as with an audiometer.

OSHA Noise Regulations

Under the Act OSHA promulgated the existing noise regulation from the Walsh-Healey Act and extended its scope to cover all places of employment. The Standard for Occupational Noise and Exposure appears in the Code of Federal Regulations, Title 29, (OSHA Safety and Health Standards) Section 1910.95. The current OSHA Standard permits 90 decibels (dB) as the permissible noise exposure for an eight-hour work day.*

Section 1910.95(b)(3) of the current Standard states "in all cases where the sound levels exceed the values shown herein (Table G-16) a continuing, effective hearing conservation program shall be administered."

***Table G-16. Permissible Noise Exposures**

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4 or less	115

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*Some authorities consider 90 dB per eight-hour day as too high and 85 dB as a safer limit. NIOSH recommended, and OSHA proposed new 85 dB noise standards in 1974, but as of this printing, these have not yet been approved or promulgated due primarily to the complexities of evaluating noise trauma in industrial populations.

*Source: OSHA Safety and Health Standards (29 CFR 1910.95). U.S. Department of Labor, Occupational Safety and Health Administration.

When the proposed, revised standard is promulgated, basic requirements, as in other OSHA Standards, will be written in specific terms. In general, the revised standard will state requirements for:

- the daily exposure limit to continuous noise,
- the daily exposure limit to impulse noise,
- noise level monitoring in the workplace,
- calibration of monitoring instruments,
- engineering controls (redesigning workplaces and machinery),
- administrative controls (changing work schedules and job assignments),
- wearing hearing protection devices,
- training of personnel to become certified audiometric technicians,
- baseline and periodic audiograms for all workers exposed to noise levels above the standard,
- recordkeeping, including record retention,
- notification to all employees who have been exposed to excessive noise levels, and
- employee access to exposure records.

Prevention and Control

Occupational hearing loss can be prevented. The goal in industrial hearing conservation must be the prevention of any loss of hearing due to the worker's occupation, and the early recognition and appropriate referral for hearing loss due to any other cause.

Excessive noise can also cause physiological problems other than hearing loss. It can have an effect on emotions, produce irritability, increase blood pressure and heart rate, and produce nausea. Noise causes psychological damage and psychosomatic illnesses, all of which can seriously disrupt the worker's job performance. This area of noise research has been limited because no long term, serious effects on health, other than noise-induced hearing loss, have yet been demonstrated.

A hearing conservation program requires team effort. The physician, industrial hygienist, safety engineer, and occupational health nurse have important roles, each contributing their special knowledge to prevent and to control occupational hearing loss. The employer and union officials must also provide day-by-day support to the team members. The industrial hygienist or the safety specialist has the responsibility to perform noise surveys in the work environment, monitor areas producing excessive noise, assist in identifying workers exposed to excessive noise, and assure that the noise instrumentation and equipment meet required OSHA specifications.

The physician should advise and recommend to the plant manager a medically satisfactory hearing conservation program that meets the legal requirements of OSHA. The physician is responsible for the selection of the equipment; i.e., the sound-proof room for testing, the audiometer, the personal protective devices, and the record forms. He is also responsible for interpreting audiogram tracings and for choosing an otologic consultant.

The nurse needs specific training to implement the hearing conservation program. Industrial audiometry should be performed only by appropriately trained persons. To do less may result in legally invalid audiograms. Programs to certify audiometric technicians and nurses are in existence in most areas of the country. The Intersociety Committee on Audiometric Technician Training for the Council for Accreditation of Occupational Hearing Technicians provides such training.

Nursing Responsibilities

Much of the success of the hearing conservation program will depend on the nurse's competence, ability to motivate a cooperative spirit among personnel, and sincerity in safeguarding employees from hearing loss.

The nurse responsible for a hearing conservation program shall:

1. become certified in audiometric testing,
2. collaborate with the occupational team in planning the program,
3. assist in promoting the program using health education principles, techniques, and materials,
4. before testing, examine the outer ear, the external meatus and the tympanic membrane for evidence of cerumen or other abnormalities (the nurse must receive training in assessment skills to perform the ear examination),
5. remove excess cerumen (as indicated by the medical directives),
6. conduct audiometric testing,
7. maintain the records of audiometric measurements,
8. select and fit hearing protective devices after examination of the ear,
9. instruct employees in the use and care of ear plugs and ear muffs,
10. refer employees having abnormal audiograms to the physician,
11. assist the employer in complying with OSHA regulations and specifications,
12. alert management to unusual audiometric findings on groups of workers by department location, and
13. re-evaluate program effectiveness periodically and make appropriate changes.

SUGGESTED READINGS

Books:

American Industrial Hygiene Association. Industrial Noise Manual, 3rd Edition. 1975. American Industrial Hygiene Association, Akron.

Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health. Occupational Exposure to Noise. NIOSH Criteria for a Recommended Standard. 1972. DHEW (NIOSH) Publication No. (HSM) 73-11001, U.S. Government Printing Office, Washington, D.C.

Sataloff, J., and P. Michael. Hearing Conservation. 1973. Charles C. Thomas Publications, Springfield.

United States Department of Labor, Occupational Safety and Health Administration. Noise, The Environmental Problem, A Guide to OSHA Standards. 1972. U.S. Department of Labor, (OSHA) No. 2067, U.S. Government Printing Office, Washington, D.C.

United States Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health. A Guide to the Work-Relatedness of Disease. 1976. DHEW (NIOSH) Publication No. 77-123, U.S. Government Printing Office, Washington, D.C.

Other References:

Murphy, A. J. A Guide for Nurses in a Hearing Conservation Program. October, 1963. American Association of Industrial Nurses Journal, 11(10):20.

Murphy, A. J. The Identity of the Nurse in an Industrial Hearing Conservation Program. May, 1969. Occupational Health Nursing, 17:32.

Nelson, R. A. The Practical Side of Hearing Conservation. May/June, 1975. The International Journal of Occupational Health and Safety, 44(3):18.

Immunization Practices

Immunization practices as a preventive health measure are necessary and can be provided at little cost. However, it is also necessary to have a written policy for the immunization program and practices. The kinds of preventive protection given most frequently in industry are for tetanus, influenza, poliomyelitis, and special immunizations for employees traveling overseas. Some employers also provide immunizations for personnel working in outside areas where they are exposed to poison ivy and poison oak. A tetanus immunization program is widely accepted in industry. Active immunization with tetanus toxoid gives the best protection. Workers who have been actively immunized against tetanus should receive a booster after traumatic injury.

The preplacement health history should reflect past immunizations of the employee. Plant policy should call for a signed consent form and a system for updating immunizations. It is suggested that the immunization practices correspond with current CDC policies.* Additionally, an employer may wish to participate in community-wide immunization programs at the request of, and in cooperation with, a local medical society or community health agency.

If you are the nurse in a hospital-based occupational health program, immunization practices for hospital workers are more specific. Recommended immunizations for hospital workers are:

- smallpox every three years for employees exposed to patients,
- diphtheria-tetanus booster every ten years,
- oral polio, complete series (no booster dose needed), and
- special immunizations as indicated by epidemics or unusual laboratory conditions, such as immune serum globulin for the control of hepatitis A.

Nursing responsibilities to be considered during a planned immunization program are:

- Insure that employees can read the information on the informed consent form.
- Answer questions employees may have regarding the vaccine, such as benefits, normal risks, contraindications, or alternatives.
- See that a physician is on the premise while the program is on-going.
- Provide an emergency tray equipped to control sensitivity reactions.
- Know about dose and time intervals, reactions, contraindications, and methods of inoculation.

SUGGESTED READING

Benenson, A. S. Control of Communicable Disease in Man. 1975. The American Public Health Association, Washington, D.C.

Employee Rehabilitation

Both the employer and the employee have a vital interest in rehabilitation. Rehabilitation should restore the affected employee's health and work capacity to the fullest extent possible. The employer has a direct responsibility for the rehabilitation of an employee suffering from an occupational illness or injury, as well as considerable interest in helping to rehabilitate non-occupationally disabled employees. Absence from work can be costly regardless of the cause.

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*Current immunization practices are available from the Center for Disease Control in Atlanta. See Appendix for address.

It is generally accepted that rehabilitation is the restoration of a handicapped individual's fullest physical, mental, social, vocational, and economic usefulness. The delivery of rehabilitation services is a complex process based on the teamwork of specialists and other personnel. Ideally, rehabilitation should begin at the time of injury and continue until maximum efficiency is gained. Realistically, this is sometimes impossible, but it should nevertheless be a goal. The best possible care shall be administered at the time of injury to prevent disabilities from occuring. It is essential to properly position and protect the injured areas of the employee. The occupational health nurse can have a great deal of influence on the attitude of severely injured employees by instilling trust and confidence in the care and supervision they will be receiving.

Nursing responsibilities do not end after primary care has been given to an injured worker, but continue through the coordinated efforts of the employer, plant physician, and community health specialist. Hospitalized employees should be assured that their supervisors, co-workers, family, and plant nurse and physician are looking forward to their return to work.

Physicians often permit an earlier return to work, or employees with minor disabilities may continue to work, when a nurse and rehabilitation services are available in the plant. This is especially true when injury to the musculoskeletal system occurs; as in bursitis, arthritis, myositis, tenosynovitis, dislocations, contusions, sprains, and strains. When the physician prescribes a physical therapy program for an employee in distress, the nurse can provide the treatment or combination of treatments to obtain the desired effects.

Nursing activities in rehabilitation include providing constant assurance and hope that the returning worker may be able to perform the job. Counseling is necessary to determine what the employee knows and understands and what he is able to accept about any physical limitations. The nurse explains that temporary set-backs in progress and that the emotional reactions experienced are not unusual.

An occupational health nurse continues to provide care by using the in-plant resources prescribed by the attending physician. Many occupational health facilities are equipped with physical therapy modalities such as devices to produce heat or cold, hydrotherapy, electrotherapy, exercise, and massage. The nurse should also understand basic principles of physical medicine in order to participate in planned rehabilitation and also must know the precautions and contraindications for such procedures, as when the patient is receiving medications.

An occupational illness, resulting from an unsafe occupational exposure, also creates many disabling medical conditions. Chronic obstructive lung diseases are currently of major concern. Smoking habits of many workers contribute to the severity of lung diseases. Screening techniques such as lung-function testing and periodic medical surveillance aid in early case discovery and diagnosis. Utilization of early rehabilitation principles to control and restore adequate lung function for chronic respiratory diseases is equally important.

Signs and symptoms of beginning asthma, bronchitis, and emphysema may, in reality, indicate chronic obstructive lung diseases. Measures to restore vital capacity should be a part of a total rehabilitation program with necessary assessment and diagnosis through the use of available cardiopulmonary clinics. The nurse in industry can then follow through with the medical plan to assist workers with chronic respiratory conditions.

Other nursing functions in general rehabilitative processes may be to supervise exercises, measure the progress of joint movement, assist with care of a prosthesis, and encourage the worker to be involved in his own plan for regaining health.

Where an employee cannot return to a previous job, either temporarily or permanently, the nurse can help in the adjustment to a new job by providing reassurance and explaining the necessity for the change. Referrals to vocational centers and job retraining centers in the community are vitally important in these cases. State Vocational Rehabilitation Agencies provide a variety of services (e.g., diagnostic, medical and surgical, psychological, physical restoration, vocational counseling and evaluation, education and training, and job placement). The agencies also provide appliances, tools, and equipment.

SUGGESTED READINGS

Books:

Garret, J. F., and E. S. Levine. Rehabilitation Practices with the Physically Disabled. 1973. Columbia University Press, New York.

Rusk, H. A. Rehabilitation Medicine, 3rd Edition. 1971. C. V. Mosby Co., St. Louis.

Other References:

Bernhardt, J. H. The Role of the Occupational Health Nurse in Employee Rehabilitation. September, 1975. Occupational Health Nursing, 23(9):9.

Use of Community Resources

Occupational health nurses frequently mention "use of community resources" as a catchall for any health related activity which takes place outside of the plant. The nurse should have current information about local community resources and sources of assistance to employees, and make that information available to employees. A planned procedure to make a referral and receive feedback is more efficient than merely offering advice. A well designed referral form aids in monitoring continued care, and in communication between client, agency, and occupational health nurse.

A community health directory provides valuable information. Such a directory is usually available from the local health department (the official tax-supported agency), or from a voluntary health agency (the non-official, privately funded agency). These directories provide a listing of all known health and welfare facilities and resources: hospitals, ambulatory services, neighborhood health centers, prepaid group health or HMO's health planning groups, and health personnel specialists. Pertinent data include the purpose, resources, and services offered to the community.

With the passing of Public Law 93-641, the "National Health Planning and Resources Development Act" of 1974, data about all community health resources and facilities will be collected. The local health planning groups of the Health Systems Agency (HSA), plan for, and help to implement, the development of those health resources in the area, including manpower, facilities, and services and are a valuable information source for residents of the health planning area.

The nurse's concern for community health also encompasses concern for environmental health. Today's industrial organization is committed to the protection of the general environment of the community, as stated in the AMA's "Scope, Objectives, and Functions of Occupational Health Programs" (page 26). The environmental/occupational health division of the local health department provides direct services and consultation to industrial plants. When environmental health specialists are not available in-plant, the nurse should collaborate with the employer and the health department to provide technical assistance and services for occupational health and safety problems.

When it is not feasible to conduct in-plant health screening services, community health screening programs should be made available to employees. Frequently, a voluntary agency is most willing to bring screening services to the industry; for example, a skin testing program for tuberculosis, a program for diabetes detection, or a hypertension screening program. The occupational health nurse can interpret, promote, and assist in planning such programs. The nurse can also coordinate these services and act as a liaison to provide follow-up and referral services.

Additional nursing responsibilities:

1. Contribute to continuing care by assisting employees to enter a health service delivery system.
2. Communicate with health agencies, the employees' family, and the private physician, hospital, and clinic to be assured that the employee is receiving adequate care.
3. Interpret, advise, and assist employees to accept and understand their care plans.
4. Coordinate plant preventive health programs with community services and resources.
5. Take active part in community health programs, attend meetings serve on committees, and hold offices in organized groups.
6. Interpret to management the health needs of workers and the resources of the community.
7. Interpret occupational health concepts to community health personnel.

SUGGESTED READINGS

Books:

Freeman, R. B. Community Health Nursing Practice. (Chapter 21.) 1970. W. B. Saunders Company, Philadelphia.

Herman, H., and M. McKay. Community Health Services. 1968. International City Managers Association, Washington, D.C.

Tinkham, C. W., and E. F. Voorhies. Community Health Nursing, Evolution and Process. 1972. Meredith Corp., New York.

The Expanded Role of the Occupational Health Nurse

Providing the best nusing care possible has always been the primary concern of professional nurses. Because of this concern, nursing has kept pace with the changes the health care delivery system has undergone in responding to society's health needs. Nurses with specialized education, training, and experience have expanded their roles and increased the level of their functions. The change from traditional nursing practice to the expanded role for the professional nurse is a dramatic movement. With this change, some confusion has been noted regarding terminology, levels of preparation, credentials, legal considerations, and relationships between physicians and nurses.

This unit describes the evolution of the expanded role for nursing practice beginning with a discussion of the Federal government's early concerns, the professional nursing organizations clarification of terms, and continuing with an overlay of these and other concepts upon occupational health nursing practice.

In 1971, the Secretary of the U.S. Department of Health, Education, and Welfare appointed a committee to bring together leaders from the professions of nursing, medicine, hospital administration, and allied health to determine the new responsibilities and the relationships of nurses in expanded roles. The committee, The Secretary's Committee to Study Extended Roles for Nurses, published a report: "Extending the Scope of Nursing Practice" (November, 1971). The report carefully examines both broadening the range and contributions of nursing, and overcoming the complex barriers that stand in the way of achieving that goal.

The following sections, excerpted in part from the Committee's report, define the elements of nursing practice in primary, acute, and long-term care.

Primary Care

"One of the most important opportunities for change in the current system of health care involves altering the practice of nurses and physicians so that nurses assume considerably greater responsibility for delivering primary health care services. The term Primary Care as used in this paper has two dimensions: (a) a person's first contact in any given episode of illness with the health care system that leads to a decision of what must be done to help resolve his problem; and (b) the responsibility for the continuum of care, i.e., maintenance of health, evaluation and management of symptoms, and appropriate referrals."

The nurse's primary care functions include:

- "Routine assessment of the health status of individuals and families.
- "Institution of care during normal pregnancies and normal deliveries, provision of family planning services, and supervision of health care of normal children.
- "Management of care for selected patients within protocols mutually agreed upon by nursing and medical personnel, including prescribing and providing care and making referrals as appropriate.

- "Screening patients having problems requiring differential medical diagnosis and medical therapy. The recommendation resulting from such screening activities is based on data gathered and evaluated jointly by physicians and nurses.
- "Consultation and collaboration with physicians, other health professionals, and the public in planning and instituting health care programs."

Acute Care

"The role of the nurse in acute care is in many ways more clearly defined than it is in other areas of health care. Acute care consists of those services that treat the acute phase of illness or disability and has as its purpose the restoration of normal life processes and functions."

The nurse's acute care functions include:

- "Securing and recording a health and developmental history and making a critical evaluation of such records as an adjunct to planning and carrying out a health care regimen in collaboration with medical and other health professionals.
- "Performing basic physical and psychosocial assessments and translating the findings into appropriate nursing actions.
- "Discriminating between normal and abnormal findings on physical and psychosocial assessments and reporting findings when appropriate.
- "Making prospective decisions about treatment in collaboration with physicians, e.g., prescribing symptomatic treatment for coryza, pain, headache, nausea, etc.
- "Initiating actions within a protocol developed by medical and nursing personnel, such as making adjustments in medication, ordering and interpreting certain laboratory tests, and prescribing certain rehabilitative and restorative measures."

Long Term Care

"Long term care consists of those services designed to provide symptomatic treatment, maintenance, and rehabilitative services for patients of all age groups in a variety of health care settings." The Committee report also lists long term care functions including assessment, initiating requests for procedures, interpreting laboratory findings, conducting clinics for screening of health problems, assuming nursing responsibilities for continued care, and initiating referral.

Since 1971, the overall acceptance of the movement from the traditional role to the expanded role is reflected in the proliferation of educational programs, both long term and short term, designed to prepare registered nurses to work in an expanded role.*

In 1974, the American Nurses' Association Congress for Nursing Practice** further defined nursing roles as follows:

"The Congress for Nursing Practice presents the following definitions it believes constitute the first step toward an orderly process to insure uniformity of definitions for practitioners, employers, and consumers. The Congress realizes that these definitions undoubtedly will have to be updated in the future to accommodate progress in the health care field."

Roles in Practice

"Practitioners of professional nursing are registered nurses who provide direct care to clients utilizing the nursing process in arriving at decisions. They work in a collegial and collaborative relationship with other health professionals to determine health care needs and assume responsibility for nursing care. In the course of their practice, they assess the effectiveness of actions taken, identify and carry out systematic investigations of clinical problems, and engage in periodic review of their own contributions to health care and those of their professional peers."

Nurse Practitioners

"Nurse practitioners have advanced skills in the assessment of the physical and psychosocial health-illness status of individuals, families or groups in a variety of settings through health and development history taking and physical examination. They are prepared for these special skills by formal continuing education which adheres to ANA approved guidelines, or in a baccalaureate nursing program."

Nurse Clinicians

"Nurse clinicians have well-developed competencies in utilizing a broad range of cues. These cues are used for prescribing and implementing both direct and indirect nursing care and for articulating nursing therapies with other planned therapies. Nurse clinicians demonstrate expertise in nursing practice and insure ongoing development of expertise through clinical experience and continuing education. Generally, minimal preparation for this role is the baccalaureate degree."

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*A Directory of Programs Preparing Registered Nurses for Expanded Roles. 1974. Prepared jointly by the Department of Social and Preventive Medicine, School of Medicine, State University of New York, Buffalo; and the Health Resources Administration, Bureau of Health Manpower and Division of Nursing (DHEW, PHS).

**The American Nurses' Association, Congress for Nursing Practice. May, 1974. American Nurses' Association, Kansas City.

Clinical Nurse Specialists

"Clinical nurse specialists are primarily clinicians with a high degree of knowledge, skill, and competence in a specialized area of nursing. These are made directly available to the public through the provision of nursing care to clients and indirectly available through guidance and planning of care with other nursing personnel. Clinical nurse specialists hold a master's degree in nursing preferably with an emphasis in clinical nursing."

Occupational Health

Opportunities for role expansion for the occupational health nurse need not be limited to primary care, but also encompass acute care and long term care.

Today's occupational health nurse, operating in an expanded role as a professional nurse practitioner, provides direct care to employees or to groups of employees. The nurse practitioner engages in independent decision making about the nursing care needs of workers and collaborates with other health professionals in determining plans for care and institutes health care programs.

Many health programs in industry lend themselves to the fullest utilization of the nurse practitioner. Specifically, planned occupational health program activities can be developed, implemented, and evaluated by the nurse. The protocols for such programs should be mutually agreed upon by the physician and nurse. Program responsibilities are in the following areas:

- health examinations (preplacement, periodic, etc.),
- medical monitoring for the prevention and control of occupational illness caused by exposures to toxic substances,
- health screening for early detection of disease,
- mental health and crises intervention,
- counseling for health and personal problems,
- health and safety education which modifies behavior,
- management and treatment regimens for occupational injury and illness, and
- health maintenance through preventive health programs.

The HEW Committee report emphasizes the importance of increasing skills through theory and practice, as stated: "Assumption of these responsibilities requires that nurses so engaged have knowledge and requisite skills for:

- eliciting and recording a health history;
- making physical and psychosocial assessments, recognizing the range of "normal" and the manifestations of common abnormalities;

- assessing family relationships and home, school, and work environments;
- interpreting selected laboratory findings;
- making diagnoses, choosing, initiating, and modifying selected therapies;
- assessing community resources and needs for health care;
- providing emergency treatment as appropriate, such as in cardiac arrest, shock, or hemorrhage; and
- providing appropriate information to the patient and his family about a diagnosis or plan of therapy."

Occupational health nurses have, for many years, practiced in an independent role. Many of the skills mentioned here have been performed by the nurse in day-to-day activities necessary to provide the best care possible for employees. Throughout this Guide for new nurses in industry, the importance of additional training to perform new skills or the acquisition of further knowledge to assume new responsibilities has been stressed.

Physical assessment skills for the nurse, as used in primary care, is a beginning. As the new nurse moves up from staff level to supervision to consultation and administration, additional skills, knowledge, and resources must be acquired. The future of the occupational health nurse will depend on the nurse's own response and willingness to continue to improve, and demonstrate leadership competencies so urgently needed to assure a safe and healthy work environment for employees in the Nation's industries.

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CHAPTER III

THE WORK SETTING

A HISTORY OF OCCUPATIONAL HEALTH*

At the turn of the century, the United States was still a predominantly agricultural country. But farm machinery and improved farming methods were steadily reducing the proportion of agricultural workers.

Mushrooming of cities signified the changing character of the Nation. When Lincoln was first inaugurated, fewer than one-sixth of the people of the United States lived in cities with populations of 8,000 or more. Forty years later, more than one-third of the people lived in cities of this size.

The American city itself was changing. Once it had been primarily a residential and trade center. Now, foundries, factories, and mills created a new industrial metropolis, whose towering smokestacks marked the coming of a new age.

Industrial plants provided work for the growing city population. In 1860, there were only about 1,500,000 industrial workers in the United States. By 1900, the number had risen to more than 5,500,000.

The backbone of industry was the mining and processing of minerals. By 1900, the United States was producing more than one-third of the world's yearly supply of iron and steel.

Metals were fabricated into the machine and tools of the industrial age. In 1860, the United States had little more than one billion dollars invested in manufacturing. Fifty years later, this had risen to 12 billion dollars, and the value of manufactured products had increased 15 times over.

Industry expanded rapidly to keep up with the enormous demand for industrial products. Rapid growth fostered make-shift arrangements. More and more workers were crowded into old facilities, or flimsy additions were thrown up to accommodate expansion.

A great tide of immigration supplied needed workers to the burgeoning plants, factories, railroads, and mines. These new citizens also created a vast new market for manufactured goods. Between 1890 and 1914, over

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***NOTE:** This brief history traces some of the significant developments affecting the health of American workers and has been excerpted from "50 Years of Occupational Health." 1964. U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Occupational Health, Washington, D.C.

16,500,000 immigrants from all over the world poured into the country. In one year alone, 1907, 1,285,000 persons began a new life in America.

As the Nation surged ahead into the Industrial Age, ever increasing and expanding production became the goal of the new economy. The worker spent long hours of work in an environment contaminated by the dirt and wastes of the industrial process. Because few plants provided washrooms, he carried home these industrial wastes on his skin, and hair, and clothing.

Dust, grime, smoke, and noxious fumes were regarded as the necessary by-products of an industrialized society. Little was known, and few were concerned, about the effect of these conditions on human life, and employers were not legally responsible for the safety or health of their workers.

Dirty, dusty conditions were not the only health hazards in the early factories. Extreme heat or cold, dampness, noise, bad lighting, poor ventilation, and overcrowding were common. One early observer remarked that "workers must be in excellent health when they begin — otherwise they couldn't last a year."

In some plants, children outnumbered adult workers. They labored under the same conditions and, like their elders, spent most of each day at their jobs. Twelve- to fourteen-hour work-shifts — often seven days a week - were common.

Workers were aware of the health hazards in certain work. Such terms as "miners' asthma," "brass-founders' ague," "hatters' shakes," and "filecutters' paralysis" were part of their language and experience. But workers had families to support, and dangerous jobs often paid higher wages. Many felt that to change jobs would be merely to exchange one set of hazards for another.

Employers realized that industrial workers suffered bad health and early death. But these misfortunes were usually attributed to the personal habits of the workers or living conditions in their homes.

Medical opinion also tended to ignore the health aspects of work. Even when industrial diseases and disabilities were identified, they were ascribed to other causes. The statistical evidence, however, was overwhelming. The industrial worker's life span was short. In some trades, death in the 30's was common. In practically all trades, the worker's useful life was shortened, for many who lived into their 40's and 50's had serious disabilities which made work impossible.

The Public Health Service investigation of dust conditions in mining, stonecutting, and cement manufacture, begun in the early 1900's, was one of the first scientific studies of occupational health hazards. The study contributed much basic knowledge on silicosis and the other killing or disabling respiratory diseases which afflicted so many workers in the dusty trades.

An early survey of a group of lead smelting plants employing about 7,400 workers revealed some 1,800 cases of lead poisoning. Lead had been recognized as a poisonous material since ancient times, but these 20th century plants provided no protection to workers. Thousands of workers in other trades using lead or lead compounds were also unprotected. Of 1,800 pottery workers studied, almost 22 percent suffered from lead poisoning.

In time, the lead poisoning toll in industry was reduced with the introduction of preventive measures such as exhaust ventilation, regular medical examinations, and education of the worker.

A 1914 study of conditions in the garment industry showed a high incidence of tuberculosis among the workers. Attention was focused on unhealthy working conditions — poor light and ventilation, overcrowding, and lack of sanitary facilities — which contributed to the high tuberculosis rate. The study helped to pave the way for abolishment of the "sweatshop."

Labor Department investigators studying working conditions of women and children discovered 16 cases of phosphorus poisoning among workers in the match industry. Further investigation revealed an additional 150 cases, including four deaths. In 1912, shortly after the report was published, Congress placed a high tax on white phosphorus matches, and companies in the United States adopted the harmless substitute which the European industry had been using for years.

During the 1920's there was a serious outbreak of radium poisoning in the watch industry. In one plant employing 800 persons, 48 cases of radium poisoning developed, with 18 deaths. In another plant, 20 died; sixteen were girls who painted the luminous dials, and four were chemists or physicists. Findings of occupational health studies led to the adoption of practices to prevent health damage.

Mercury poisoning had been notorious for centuries among workers in the felt hat industry, where mercury was used in solution to improve the felting quality of fur. The mental effects and characteristic tremors associated with mercurialism gave rise to the expression, "mad as a hatter." As recently as 1937, examination of 544 hatters employed in representative hat factories in the United States revealed that more than 10 percent suffered from some degree of mercury poisoning. Non-toxic chemicals have since replaced mercury in the felting process.

The growing strength of the labor movement accelerated the drive for healthful working conditions and enlightened industrial leadership recognized the need for worker protection. Both labor and industry cooperated with Federal and state health authorities to control occupational disease.

As the public became more aware of potential hazards in the work environment, States began to provide for occupational disease coverage in their workmen's compensation laws.

America was on the threshold of a new age of technology, which brought with it new and complex health hazards for the worker and a great new challenge in the field of occupational health. New industries introduced new and even more hazardous materials and conditions.

Old hazards reappeared in the new industries. Lead was used in the manufacture of storage batteries and rubber, and workers in these industries began to suffer from lead poisoning.

The development of X-ray tubes, fluorescent lamps, and many other new products introduced new materials into industry. These were often widely used before they were studied for toxic effects. Some such as beryllium, manganese, cadmium, and selenium, proved to be highly dangerous when used without adequate protection.

Certain chromium compounds — the chromates and bichromates — became essential to many industrial processes and were widely used in electroplating, photography, and leather tanning. Skin lesions and ulcers were common among chromate workers, and the cancer rate was much higher than among workers in other industries.

The giant petroleum industry helped to change the face, and the pace, of America. Automobiles, airplanes, and the fuels that powered them, revolutionized transportation. No industry had ever before produced such a variety of useful — and potentially dangerous — materials. A multitude of petroleum by-products — paraffin, oils, solvents, greases, dyes, pigments, insecticides, and drugs — brought unfamiliar hazards to the worker.

Solvents, including naphtha, benzene, alcohol, acetone, and many others, were used in thousands of new industrial processes. These ranged from the extraction of oil from vegetable meals to the production of plastics, paints, explosives, and pharmaceuticals. But the same volatile properties that make solvents so useful as cleaners, thinners, and dryers also made them dangerous when used without adequate protection.

The modern chemical industry, based largely on petroleum, soon surpassed even its parent industry in the number and variety of its products. The magic wrought by chemical research transformed American life with synthetic fibers, plastics, and antibiotics. The products of chemistry gave birth to whole new industries, where hundreds of thousands of workers could suffer if the new compounds proved dangerous.

Products of the chemical industry made farming a scientific, and potentially hazardous, occupation. Each year, millions of tons of pesticides, animal feeds, and fertilizers are used by farmers. The widespread use of chemicals, together with the use of machines, subjects the modern farmer to many of the hazards faced by the industrial worker.

With the harnessing of nuclear energy, thousands of workers were using radioactive materials with safety. Earlier experience with radioactive substances, such as those used in the watch industry, had made protection possible.

However, the dangers of radioactivity revealed themselves in a new work environment. On the Colorado Plateau, miners and mill workers faced hazards in producing uranium for America's atomic industry. . . . Radon, a radioactive gas several times as heavy as air, appears to be the most serious health threat in uranium mining, and the techniques to reduce the danger of radiation have been applied in many mines as a result of a Federal study. The investigation is continuing to develop new knowledge which will help our own and future generations work safely in the Atomic Age.

However, the danger of industrial poisoning has not vanished completely. Research in toxicology can scarcely keep pace with the rapid introduction of new, and potentially hazardous material into industry. Furthermore, our knowledge of the long-range effects of toxic exposure is incomplete.

New processes, new sources of energy, and the psychological and social stresses of the modern age are creating unforeseen problems of a type and complexity never before encountered in any consideration of worker health.

Although the health of the American worker is better than it has ever been, old and new health hazards related to his occupation still exist and are often ignored because of misunderstanding, apathy, or overconfidence. Where the science and skill which created America's industrial miracle are applied to the problems of occupational health, the worker's health may be protected, and even improved, by his work environment.

Many plants have their own programs to prevent occupational disease and injury and to treat them when they do occur. Some have established outstanding records of protecting their workers from health damage. Many companies have found that occupational health programs are excellent investments because they reduce costly absenteeism and even increase production. Although most programs were established to provide only emergency care or treatment for occupationally related problems, the programs tend to expand to include preventive health services. However, even in this age of great industrial operations, most American workers are employed in small plants — those with less than 500 workers. Few of these provide adequate health protection. . . .

In an industrial society, industry serves as a giant laboratory where scientists can see and study, in the developing stage, the environmental conditions which will affect the entire society.

Protection of the worker from new and hazardous materials will continue to be a serious problem in the years ahead. However, we have already learned that man can work safely with such materials when scientific protection is provided. As the impact of these hazards is reduced, other factors, both within and outside the work environment, emerge as important influences on the health of workers. The effects of occupational exposures do not end at the close of the workday. Similarly, the social, psychological, and physical influences of the non-work environment carry over into the work situation.

We have come to understand that the total environment affects the total man.

Man's work environment will continue to change — even more rapidly and radically than in the past. Man is creating for himself a new environment, symbolized by the push button, the electric eye, the computer, and the space capsule. Problems of temperature, noise, light, vibration, and boredom and psychological stress, loom large in the occupational health challenge of the future. Serious questions have been raised as to the ability of the human organism to adapt itself to the rapid changes of the present — or even to survive in the man-made environment of the future. The rise in psychosomatic ills which has paralleled our industrial growth suggests that we have already begun to feel some of the effects of our changing environment.

Man's place of work is only one part of his environment. But because this part lends itself to control, it offers opportunities not only to protect the worker's health but also to improve it. As our scientific knowledge grows, the time may come when the man-made work environment may actually be more healthful than the natural environment. This possibility opens up vast new areas for exploration in the field of occupational health.

THE AMERICAN LABOR MOVEMENT

The American labor movement has a long history in the United States. If the reader is interested in the movement, there is available a bicentennial publication from the Department of Labor[*] which gives comprehensive coverage with illustrations of significant events and places.

Before 1776, skilled craftsmen joined together to provide to their members and families financial assistance in the event of illnesses, debt, or death. Many specialized craftsmen formed separate associations, such as carpenters, shoemakers, and printers. In addition to the welfare activities, these unions frequently sought higher wages, minimum rates, shorter hours, enforced apprenticeship regulations, and exclusive union hiring (later known as the "closed shop"). Small union groups were gradually absorbed into nationwide organizations of labor, and were supported by the "dues" from the increasing number of locals. Benefit funds were also collected to assist members or their families during strikes and times of financial stress due to unemployment, injury, or death.

Today, a labor organization or union may be defined as a free, voluntary association of workers, organized for the common purpose of attaining the workers' and unions' objectives through collective bargaining with employers and with government. As a national economic group, the emergence of the labor movement was met with opposition and setbacks. Large corporations fought the efforts to unionize their employees and the employers disapproved of government intervention.

In 1933, in an effort to revive business and reduce widespread unemployment, the Roosevelt administration obtained the passage of the National Industrial Recovery Act (NIRA). This law included a provision which guaranteed the right of employees to organize or join unions of their own choosing and to bargain collectively with their employers. When the NIRA was invalidated by the Supreme Court, that provision was incorporated into the National Labor Relations Act of 1935 (NLRA; frequently referred to as the Wagner Act). The Act is administered by the National Labor Relations Board (NLRB). One of the major functions of the NLRB is to determine the proper collective bargaining agency. It also focuses mainly on the rights and duties of employers.

As an amendment to the NLRA, the Taft-Hartly Act of 1947 established a balance of mutual agreements in the conduct of labor relations affecting commerce. The Wagner Act was the most significant labor law thus far enacted in the United States. It guaranteed employees the right to self-organization; to form, join, or assist labor organizations; to bargain collectively through group activities or through other mutual aid or protection.

The Fair Labor Standards Act of 1938, better known as the Wage and

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[*] Morris, R. B., Ed. The American Worker (Bicentennial History of the American Worker). 1976. U.S. Department of Labor, U.S. Government Printing Office, Washington, D.C.

Hour Act, established minimum wage coverage for workers and has frequently been amended to raise minimum wages. Usually, supervisory personnel in industry, including nurses, are exempt from the requirements of the Wage and Hour Act. For example, a supervisor representing management does not necessarily receive overtime pay.

These are highlights of only some of the major labor laws of the century. They are complex and have been amended many times. Nurses must know and understand the general objectives of unions for there may be more than one local organization within a plant, representing crafts, trades, teamsters, and others, plus some professional groups.

Nurses working in an industry where union contracts are in effect must be aware of union policies, fringe benefits, and also attitudes and customs of union members; and must also be especially familiar with any contract provisions relating to the safety and health of the union member. If you have for any reason acquired biases, prejudices, or negative feelings about unionization, practice objectivity in every relationship with labor and management groups.

Working relationships between labor and management are ongoing, dynamic, and challenging. Most occupational health nurses consider themselves as representatives of management, conforming to the policies of the employer, but having great respect and regard for the worker as a member of organized labor. It has frequently been stated that nurses in industry remain "neutral" in all union controversies.

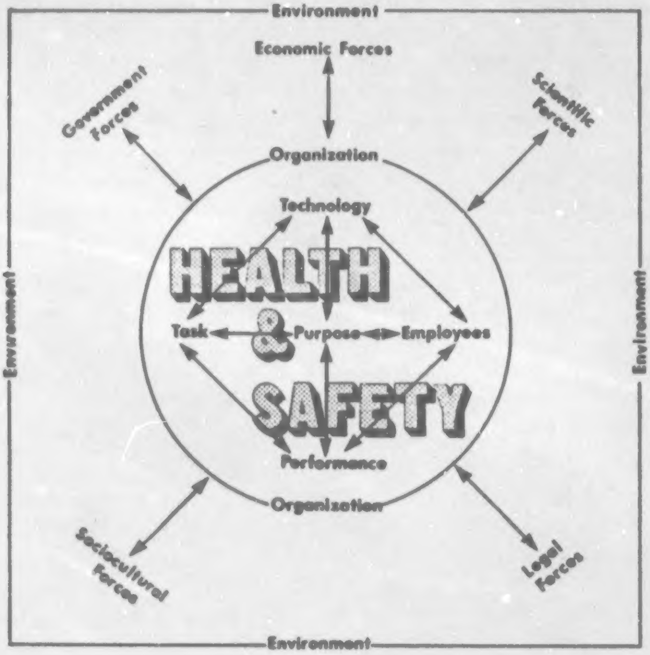
This historical summary has introduced you to the impact on American industry of the legal, technological, cultural, social, and economic growth of industrialization and the American labor movement. But the complexities still seem to grow; and change is constant.

THE CORPORATE STRUCTURE

Today's business organization is concerned, in a broad sense, with forces and conditions that exist in its environment. These forces are internal or external, direct and indirect, interrelated and interdependent. The environment affects each business organization differently because each industry has unique characteristics and factors. The internal factor consists of the industry's need for technological efficiency. The external forces consist of social, legal, economic, governmental, and scientific forces. Programs for the health and safety of all workers become an integral part of the system. These concepts are basic to management and have been diagrammed schematically.

The organizational structure of the industry represents the divisions of activities within a firm. Two tables of organizations shown in the Appen-

INTERNAL AND EXTERNAL FACTORS ON THE ORGANIZATION


Environment
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HEALTH
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SAFETY
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Employees
Performance
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Sociocultural Forces
Legal Forces
Environment
Environment
Environment

dix, indicate the chain of command and describe the vertical channels of communication linking the managerial or executive body to the working or operating staff level. The tables of organizations demonstrate vertical channels of management affecting an occupational health program in an administrative setting. A second concept in the tables shows the differences between line and staff authority, using the straight line (management) and the dotted line (staff).

Line activities in an organization are those that are directly concerned with meeting the company's product or service objectives. In a large manufacturing firm, the finance, production, and sales departments are related to the main corporate functions, having direct delegations of authority. The solid black lines denote the managerial line of a large industry employing thousands of workers. Staff activities are those carried out by a group to provide service. The service may include information, advice and assistance, or selling the product or service. Staff activities may require highly specialized groups. The occupational health program traditionally functions at a staff level, provides a service, advises line managers, and in reality sells preventive health and safety services.

In a small industry (less than 500 employees) or medium-sized industry (500 to 1200 employees) the organization appears less complicated. There, the occupational health service personnel report through the nursing service to the personnel manager or supervisor and utilize a staff medical consultant or a part-time staff physician who relates to either personnel or to the plant manager.

You will hear the term "salaried worker." The term refers to the employees who work for a fixed salary and are usually nonunion members, although there may be exceptions. The term "hourly worker" is used to identify workers who are paid on an hourly rate. These workers may or may not belong to a union group. Most occupational health nurses work as salaried employees but may use part-time or relief nurses (for vacations and sickness) who could be paid hourly rates. The salaried employee is not necessarily a line employee, and likewise an hourly worker may have managerial authority. The staff level employee might also be on salary or hourly wages.

Principles of management are as diversified as American business. The industry in which you work may have a modified version of systems of administration, or you may work in a satellite unit of a complex corporation structure. The medical director of the occupational safety and health program may be a vice president in charge of health affairs who delegates the clinical services to plant physicians and nurses.

THE PLANT PROFILE

The "Plant Profile" is a systematic collection of specific data about the plant, its products, and the workers you serve. It will also help in assessing available community services to supplement those that do not exist in your plant. The profile can be especially useful as a data base to implement an occupational health and safety program or to expand health services for better protection of the worker's health, safety, and welfare.

Specifically, the profile will help to:

- identify groups of workers at risk,
- identify work areas having potential health and safety hazards,
- identify problems of communication,
- plan health and medical programs to meet the needs of female workers, aging workers, or handicapped workers,
- plan for the specific medical surveillance and medical monitoring required by OSHA,
- plan and budget for the growth or expansion of the health unit,
- adapt to changes in the work force,
- adapt to changes in plant processes,
- perform epidemiological or research studies,
- establish community relationships, and
- provide prompt emergency care.

The plant profile should include the following:

1. The type of industry: The Standard Industrial Classification (SIC) code[*] is intended to cover the entire field of economic activities: agriculture, forestry, and fisheries; mining; construction; manufacturing; transportation; communications; electric, gas, and sanitary services; wholesale and retail trade; finance, insurance, and real estate; and government.

   Each establishment is assigned an industry code based on its major activity determined by the goods produced, or the services rendered. It is important to understand the type of industry because the total health, industrial hygiene, and safety program will all be designed to protect the health and safety of workers in this classification of industry.

2. The size of the plant: the number of employees by sex; number of salaried employees (by sex); and the number of hourly employees (by sex).

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[*] Bureau of the Budget, Executive Office of the President. Standard Industrial Classification Manual, Third Edition. 1972. U.S. Government Printing Office, Washington, D.C.

3. The age distribution of employees (under 20, between 20 and 40, between 40 and 60, and over 60).
4. The number of employees by shifts (morning, afternoon, and evening).
5. A list of ethnic groups employed.
6. A list of handicapped workers.
7. The proximity of plant to nearest community clinic or hospital in miles and minutes.
8. A list of product(s) or service(s).
9. A list of hazardous operations creating a potential exposure to harmful agents (chemical, physical, biological).
10. A list of hazardous work areas causing occupational injury or illness (foundry, machineshop, maintenance, supply, etc.).
11. A list of groups of employees exposed to hazards by occupations (riggers, painters, fire-fighters, laboratory workers).
12. A list of sources of additional services (emergency care, ambulance service, medical consultation, and special referrals by telephone number, address, and person to contact).
13. A list of sources for community health and welfare referrals and assistance (telephone number, address, person to contact, service provided and clinic hours).

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CHAPTER IV

HEALTH AND SAFETY LEGISLATION AND INDUSTRIAL WORKERS

It is important for the new nurse to be aware of labor legislation and particularly of occupational safety and health legislation; its inception, expansion, enforcement powers, provisions, changes. and amendments.

In 1700, Bernardino Ramazzini, an Italian physician, published his classic treatise, "De Morbis Artificum: Diatriba," the first systematic study of trade diseases. Dr. Ramazzini is acclaimed as the "Father of Occupational Medicine" and his famous diagnostic question, "What occupation does he follow?" is a familiar quote today. Although his work influenced the course of worker health and safety protection and increased interest in the worker's environment, legislation was slow to follow.

Legislation and regulation must be based on knowledge; and several classic studies, performed by American scientists, have influenced legislation. Dr. Alice Hamilton, a pioneer in occupational medicine, published a report on industrial lead poisoning which eventually led to state legislation in the area and subsequently to improved working conditions.

The disastrous Triangle Waist Factory Fire of 1911 in New York caused the death of 145 workers, mostly young women, and dramatically brought the hazardous situation of the needle trades to public attention. Also, tuberculosis was so prevalent among garment workers that it was recognized as being occupationally related. These historical events are just a few examples of tragedies which led to some form of legislation to protect the worker.

The following excerpts briefly describe current laws which employers must implement into their own establishments' policies. Emphasis is placed on the Occupational Safety and Health Act of 1970 because of its enormous impact on the work environment.

WORKERS' COMPENSATION

Social considerations and organized union efforts to protect and conserve the worker's health eventually resulted in the first state workmen's compensation act in 1910. In 1911, 10 states enacted such laws followed by 11 more in 1912 and 1913. Organized industrial health services developed chiefly after 1910 as a consequence of the workmen's compensation movement.

Today, all states have workmen's compensation laws. In 1970, the Occupational Safety and Health Act established a National Commission on State Workmen's Compensation Laws to make a comprehensive study and evaluation of all work laws and report its findings to the President and Congress. This report revealed many discrepancies in state laws. Currently, there is a movement to standardize payments and coverage and to broaden rehabilitation programs and benefits for injured and ill workers.

All states now permit compensation for all or specified occupational diseases, as well as accidental injuries. Some state compensation laws, by means of second injury funds, permit awards to workers who, having a known chronic illness, have proven that the condition was worsened by aggravation or stress from the job.

Second Injury Funds have been established under most laws to meet the problem of the handicapped employee who loses a limb or eye, or whose second injury results in permanent, total disability. The original purpose was to avoid discrimination in the employment of such handicapped workers. Under second injury fund statutes, which have been adopted in almost all states, the employer is ultimately liable only for the amount of disability attributable to the particular injury occurring in his employment, while the fund pays the difference between that amount and the total amount to which the employee is entitled for the combined effects of his prior and present injury. Most laws only apply to second injuries involving the loss or use of some member of the body, but the trend is toward covering injury or disease that results in permanent total disability.

You will want to learn about your state's workmen's compensation laws and their provisions, such as occupational disease coverage, benefits during rehabilitation, medical benefits for accidental injuries, selection of a physician, limits for filing claims, waiting periods, and also death benefits. If the provisions of the law seem complicated, bear in mind that your plant compensation programs may have been in effect for a long time and experts in the field are available for consultation. The insurance company that handles workmen's compensation claims frequently employs an occupational health nurse consultant and an industrial hygienist to advise on program planning and controls and complex work-related problems. The insurance consultant is a reliable source of information to you and your employer.

THE SOCIAL SECURITY ACT

In 1935, the Social Security Act (SSA) was passed and has since been amended many times. In 1965, the Medicare and Medicaid provisions were added. This act provided certain old-age benefits through insurance, including (since 1965) provision for a combined compulsory and voluntary health benefit for those 65 years old or over, i.e., Medicare. In addition, it provides for grants to states including: old-age assistance, such as medical benefits to the needy aged (Title 1 of the SSA Act); aid for families with dependent children; aid for the blind; aid for the permanently and totally disabled; care for the aged blind and disabled; and, since 1965, medical assistance for needy or medically needy families (Title 19 of the SSA Act).

The Professional Standards Review Organization (PSRO) is covered in another amendment to the Social Security Act. This program was established as an ethical audit to review the hospital stay of patients receiving services under Medicare/Medicaid. The PSRO has the authority to question the need for hospitalization and may cause denial of Medicare/Medicaid payments.

Although the PSRO is still in a conceptual stage and does not yet affect medical departments in an industry, the trend for accreditation of all health delivery systems is fast moving and occupational medical services may be swept into the movement.

THE HEALTH MAINTENANCE ORGANIZATION ACT

The Health Maintenance Organization (HMO) Act of 1973 provides official government sanction for prepaid group medical practice models that meet certain requirements. There are two major organizational models included under the HMO. The first, Prepaid Group Practice, is based on a multi-specialty medical group; while the second model, the Individual Practice Association, is based upon a modification of the traditional solo, fee-for-service mode of practice.

The HMO is a direct service health plan which includes responsibility for organizing and delivering comprehensive health care services to its constituents. Some of the HMO Act's many provisions and stipulations have since been amended (1973) in coverage and on qualifications. Of occupational health interest is the provision in the HMO Act which requires certain employers to include as an option in the company's Health Benefits Plan the choice of a federally qualified HMO in those areas where the employees reside. The HMO Act is very specific in these requirements. Continuing checking for changes in these provisions is essential so that you are aware of developments in the field.

THE COAL MINE HEALTH AND SAFETY ACT

The Federal Coal Mine Health and Safety Act of 1969 directed the

Department of Health, Education, and Welfare (DHEW) to (1) conduct research to establish coal mine health standards, and assure the availability of medical examinations for active underground coal miners, through the National Institute for Occupational Safety and Health (NIOSH) and to (2) provide Black Lung Benefit payments through the Social Security Administration. These provisions, generally, were retained in the superseding Federal Mine Safety and Health Amendments Act of 1977.

THE OCCUPATIONAL SAFETY AND HEALTH ACT

The Occupational Safety and Health Act of 1970, Public Law 91-596, was passed by Congress, "To assure safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes."

This Act seeks to provide American workers with protection against personal injury and illness, resulting from hazardous working conditions. Under its terms, the Federal Government is authorized to develop and set mandatory occupational safety and health standards applicable to any business involved in interstate commerce. The responsibility for promulgating and enforcing occupational safety and health standards rests with the Department of Labor.

The Department of Health, Education, and Welfare (DHEW) is responsible for conducting research on which new standards can be based, and for educating and training personnel to qualify them to carry out the purposes of the Act. DHEW's responsibilities are carried out by the National Institute for Occupational Safety and Health (NIOSH).

A 12-member National Advisory Committee on Occupational Safety and Health was also created by the Act to advise, consult, and make recommendations to both the Secretaries of Labor and of Health, Education, and Welfare. This Committee is composed of representatives of management, labor, occupational safety and health professions, and the public. There is also a presidentially appointed Occupational Safety and Health Review Commission which hears contested cases arising from enforcement of the Act. Appeal from the Review Commission decision is to a U.S. Court of Appeals.

Highlights of OSHA Authority Under the Act

The Occupational Safety and Health Administration (OSHA) has the responsibility:

- To promulgate, modify, and improve mandatory occupational safety and health standards.
- To enforce regulations and standards promulgated under the Act, with authority to enter factories and other workplace areas to conduct inspections and investigations of working conditions, equipment and materials, and to issue citations and impose penalties.
- To require employers to maintain accurate records and reports concerning work-related injury, illness and death, employee exposure to potentially toxic substances, or other appropriate records, in cooperation with DHEW.
- To develop and maintain a system of collecting, compiling, and analyzing occupational safety and health statistics, in consultation with DHEW.
- To establish and supervise programs for the education and training of plant personnel in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions covered by the Act, in consultation with DHEW.
- To make grants to assist States in identifying their needs, for developing state plans, and to enforce the administration of the Federal occupational safety and health standards or equivalent State standards.

NIOSH has the responsibility:

- To develop criteria for recommending national occupational safety and health standards.
- To collect and analyze records and statistics for the development of new or improved mandatory occupational safety and health standards.
- To conduct (directly or by grants or contracts) occupational safety and health research or demonstrations including studies of behavioral and motivational factors.
- To develop criteria for handling toxic materials and harmful physical agents, and for recommending safe exposure levels for workers for various periods of time.
- To determine toxicity of substances normally found in places of employment at the request of employer or employee groups.
- To publish an annual listing of all known toxic substances and their concentrations for toxicity.
- To conduct educational and training programs for qualifying personnel to carry out the purposes of the Act, and informational pro-

grams on the importance and proper use of adequate safety and health equipment.

Current OSHA safety and health standards (29 CFR 1910) for general industry are published by the Occupational Safety and Health Administration. The most recent publication, OSHA 2206, was revised January 1976 and should be available to every nurse in industry.

Nursing responsibilities under the Act

With regard to the Act, you, the plant nurse, must specifically have:

- full knowledge of PL 91-596, the Occupational Safety and Health Act of 1970;
- full knowledge of the occupational health and safety standards contained in Title 29 of the Code of Federal Regulations, Part 1910, as they apply to the industry you serve; and
- full knowledge of other OSHA regulations published in the Federal Register, such as the Record Keeping Requirements under the Act (29 CFR 1904) and the Hazard Evaluation Regulations (42 CFR 85). (See the Appendix.)
- full knowledge of the status of the OSHA plan for the State in which you work (i.e., an OSHA State Plan, or an OSHA Federal Order).

This information will assist you to function more effectively with relation to:

- employer responsibilities,
- employee responsibilities,
- basic compliance requirements,
- worker rights, benefits, and resources,
- handling medical information in a prudent manner,
- responsibility to provide or arrange for prompt and/or accessible medical attention for illness and injury at work,
- responsibility for determining the training needs of auxiliary personnel in first-aid practices,
- the need to keep informed of changes in the law, and
- determining what additional technical procedures must be learned.

THE FREEDOM OF INFORMATION ACT

In 1967, the Freedom of Information Act was enacted to provide the public with the right to have access to government records upon request. A 1974 Amendment to the Act requires that information in government files must be disclosed upon request. Several exemptions to disclosure under the Act include such items as Federal personnel records, trade secrets, and information available to the public under specific laws.

THE PRIVACY ACT

The Privacy Act of 1974 assures that personally identifiable information about individuals collected by Federal agencies is limited to that which is legally authorized, necessary, and maintained without intrusion upon individuals' privacy. The Privacy Act places the responsibility for compliance with its provisions upon the Federal agencies. Information collected on an individual by an agency, including education, financial transactions, medical history, and criminal or employment history (i.e., any information that contains personal identifiers), shall be maintained to protect the individual's security or integrity.

THE TOXIC SUBSTANCES CONTROL ACT

Among other purposes, the Toxic Substance Control Act of 1976 (PL 94-469) was enacted to regulate commerce and protect human health and the environment by requiring testing and restriction of the use of certain chemical substances.

Enforced by the Environmental Protection Agency (EPA), the Toxic Substances Control Act was enacted upon the findings of Congress that:

- "human beings and the environment are being exposed each year to a large number of chemical substances and mixtures;
- "among the many chemical substances and mixtures which are constantly being developed and produced, there are some whose manufacture, processing, distribution in commerce, use, or disposal may present an unreasonable risk of injury to health or the environment; and
- "the effective regulation of interstate commerce in such chemical substances and mixtures also necessitates the regulation of intrastate commerce in such chemical substances and mixtures.

"It is the policy of the United States that:

- "adequate data should be developed with respect to the effect of chemical substances and mixtures on health and the environment and that the development of such data should be the responsibility of manufacturers and those who process such chemical substances and mixtures;
- "adequate authority should exist to regulate chemical substances and mixtures which present an unreasonable risk of injury to health or the environment, and to take action with respect to chemical substances and mixtures which are imminent hazards; and

- "authority over chemical substances and mixtures should be exercised in such a manner as not to impede unduly or create unnecessary economic barriers to technological innovation while fulfilling the primary purpose of this Act to assure that such innovation and commerce in such chemical substances and mixtures do not present an unreasonable risk of injury to health or the environment."

THE CIVIL RIGHTS ACT

The Civil Rights Act of 1964, Equal Employment Opportunity Act of 1972, Voting Rights Act of 1965, and the Voting Rights Act Amendments of 1970 have had great influence in such areas as public education, access to public accommodations, considerations for employment, the right to vote, unfair employment practices, and provisions for enforcement of labor laws generally. The U.S. Equal Employment Opportunity Commission was created to provide general supervision, advice, and direction in this area.

Together, these laws prohibit discrimination because of race, color, religion, sex, or national origin; in any term, condition, or privilege of employment. All establishments with 15 or more employees are covered by these Acts and the enforcement agency is the U.S. Equal Employment Opportunity Commission.

THE REHABILITATION ACT

Congress enacted the Rehabilitation Act of 1973, "To replace the Vocational Rehabilitation Act, to extend and revise the authorization of grants to States for vocational rehabilitation services, with special emphasis on services to those with the most severe handicaps, to expand special Federal responsibilities and research and training programs with respect to handicapped individuals, to establish special responsibilities in the Secretary of Health, Education, and Welfare for coordination of all programs with respect to handicapped individuals within the Department of Health, Education, and Welfare, and for other purposes." However, in 1974, Congress amended the definition of "handicapped individual" so that the definition is no longer limited to the dimension of employability.

A new regulation effective June 3, 1977, frequently referred to as the "handicapped act" is officially known as a rule on Nondiscrimination on the Basis of Handicaps in Programs and Activities Receiving or Benefiting from Federal Financial Assistance.* Section 504 of the Act itself "thus represents the first Federal civil rights law protecting the right of handicapped persons and reflects a national committment to end discrimination on the basis of handicap."

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*Federal Register, May 4, 1977. Vol. 42 No. 86. pp. 22676-22702.

It is hoped this brief summary of the history and growth of major legislation affecting the health and safety of working men and women, will help the occupational health nurse — new in the role of "plant" nurse — develop respect, admiration, and a deep feeling of compassion for the population served.

APPENDIXES

Appendix A Sources for Health and Safety Education

Appendix B Sources for Consultation and Assistance

Appendix C A Statement for Certification for Occupational Health Nurses

Appendix D Sample Forms and Tables
  Sample 1 Sample Medical History Form for Female Employees
  Sample 2 Sample Occupational History Form
  Sample 3a Sample Floor Plan for a Small Health Services Department
  Sample 3b Sample Floor Plan for a Medium-Sized Health Services Department
  Sample 3c Sample Floor Plan for a Large Health Services Department
  Table 1a Table of Organization for a Medium-Sized Industry
  Table 1b Table of Organization for a Large Industry

Appendix E Fold Out OSHA Form 200

Appendix F NIOSH and OSHA Regional Offices

APPENDIX A

SOURCES FOR HEALTH AND SAFETY EDUCATION

The following national health and safety organizations provide a variety of services and materials useful for health and safety education. The arabic numerals and the asterisks correspond to a key for the types of services offered, a list of which appears at the bottom of each page.

Alcohol, Drug Abuse, and Mental Health Administration
National Institute on Alcohol Abuse and Alcoholism
United States Department of Health, Education, and Welfare
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852
1, 2, 3, 9**

Alcoholics Anonymous
P.O. Box 459
Grand Central Station
New York, New York 10017
1, 2, 3, 4, 5, 9*

American Burn Association
Brozer Chester Medical Center
15th Street and Upland Avenue
Upland Chester, Pennsylvania 19013
1, 2, 3, 4, 5

American Cancer Society
777 Third Avenue
New York, New York 10017
1, 2, 3, 4, 5, 6, 8*

American Council on Alcohol Problems
119 Constitution Avenue, N.E.
Washington, D.C. 20002
1, 2*

American Dental Association
211 E. Chicago Avenue
Chicago, Illinois 60611
Bureau of Dental Health Education
1, 2, 3, 4*

American Dietetic Association
430 N. Michigan Avenue
10th Floor
Chicago, Illinois 60611
1, 2, 3, 4

Key

1. Information via individual correspondence.
2. Pamphlets; other literature for distribution.
3. Posters; teaching aids.
4. Films and slides.
5. Guest speakers.
6. Screening programs at your business (in-plant).
7. Screening by referral to local agency.
8. Continuing education for health professionals and allied health workers.
9. Other services available.

* Contact local chapter.
** Referrals to other agencies, information references, or consultation.
*** Clearinghouse on health education materials.

American Diabetes Association, Inc.
600 Fifth Avenue
New York, New York 10020
1, 2, 3, 5, 6, 7, 8, 9

American Heart Association
7320 Greenville Avenue
Dallas, Texas 75231
1, 2, 3, 4, 5, 8*

American Lung Association
1740 Broadway
New York, New York 10019
1, 2, 3, 4, 5, 8*

American National Red Cross
17th and D Streets, N.W.
Washington, D.C. 20006
1, 3

American Physical Fitness Research Institute
824 Moraga Drive
Bel Air, California 90049
1, 2, 3, 5

Arthritis Foundation
1212 Avenue of the Americas
New York, New York 10011
1, 2, 3, 4

Cancer Information Service
1825 Connecticut Avenue, N.W.
Suite 218
Washington, D.C. 20009
1, 2

Hay Fever Prevention Society, Inc.
2300 Sedgwick (2-G)
Bronx, New York 10468
1, 2, 3, 5, 6, 7, 8

International Commission for Prevention of Alcoholism
6830 Laurel Street, N.W.
Washington, D.C. 20012
1, 2, 3, 4, 5

International Society for Burn Injuries
4200 E. Ninth Avenue C-309
Denver, Colorado 80262
1

Mental Health Association
1800 North Kent Street
Rosslyn, Virginia 22209
1, 2, 4

Mental Health Media Center
4907 Cordell Avenue
Bethesda, Maryland 20014
4

National Center for Health Education
44 Montgomery Street
Suite 2564
San Francisco, California 94104
1, 9*

National Environmental Health Association
1200 Lincoln, Suite 704
Denver, Colorado 80203
1, 2*

Key

1. Information via individual correspondence.
2. Pamphlets; other literature for distribution.
3. Posters; teaching aids.
4. Films and slides.
5. Guest speakers.
6. Screening programs at your business (in-plant).
7. Screening by referral to local agency.
8. Continuing education for health professionals and allied health workers.
9. Other services available.
*** Contact local chapter.**
**** Referrals to other agencies, information references, or consultation.**
***** Clearinghouse on health education materials.**

National Foundation for Jewish Genetic Diseases
608 Fifth Avenue
Room 702
New York, New York 10020
212-541-6340
1, 2, 4, 5, 8

National Foundation for March of Dimes
1275 Marmaroneck Avenue
White Plains, New York 10605
1, 2, 3, 4, 7*

National Institute on Drug Abuse
Public Health Service
United States Department of Health, Education, and Welfare
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852
1, 2, 3, 9**

National Safety Council
425 North Michigan Avenue
Chicago, Illinois 60611
1, 2, 3, 4, 7*

National Society for the Prevention of Blindness
79 Madison Avenue
New York, New York 10016
1, 2, 3, 4, 7, 9*

National Technical Information Service
United States Department of Commerce
5285 Port Royal Road
Springfield, Virginia 22161
1, 9***

Nutrition Today Society
101 Ridgely Avenue
Annapolis, Maryland 21404
1, 2, 3, 4, 5

President's Committee on Employment of the Handicapped
1111 20th Street, N.W.
Washington, D.C. 20210
1, 2, 3, 4, 5**

Key

1. Information via individual correspondence.
2. Pamphlets; other literature for distribution.
3. Posters; teaching aids.
4. Films and slides.
5. Guest speakers.
6. Screening programs at your business (in-plant).
7. Screening by referral to local agency.
8. Continuing education for health professionals and allied health workers.
9. Other services available.

* Contact local chapter.
** Referrals to other agencies, information references, or consultation.
*** Clearinghouse on health education materials.

APPENDIX B

SOURCES FOR CONSULTATION AND ASSISTANCE

The following organizations having special interest in occupational safety and health may be of assistance to nurses who wish to improve and extend occupational health services. Most of the organizations provide a list of publications upon request and also publish journals or newsletters.

American Association of Occupational Health Nurses (AAOHN)
575 Lexington Avenue
New York, New York 10022

Journal:
Occupational Health Nursing
Chas. B. Slack, Inc.
6900 Grove Road
Thorofare, New Jersey 08086

American Board for Occupational Health Nurses, Inc. (ABOHN)
P.O. Box 638
Thousand Palms, California 92276
A.H. Mayrose Snyder, Executive Secretary

Application Kit for Certification

American Conference of Governmental Industrial Hygienists (ACGIH)
1014 Broadway
Cincinnati, Ohio 45202

Newsletter, guides

American Industrial Hygiene Association (AIHA)
25711 Southfield Road
Southfield, Michigan 48075

Journal:
American Industrial Hygiene Association Journal
66 S. Miller Road
Akron, Ohio 44313

American Medical Association (AMA)
Department of Environmental, Public, and Occupational Health
535 N. Dearborn Street
Chicago, Illinois 60610

Journal:
Journal of the American Medical Association
Archives of Environmental Health
535 N. Dearborn Street
Chicago, Illinois 60610

American Nurses' Association (ANA)
2420 Pershing Road
Kansas City, Missouri 64108

Journal:
American Journal of Nursing
The American Journal of Nursing Company
10 Columbus Circle
New York, New York 10019

American Occupational Medical Association (AOMA)
150 North Wacker Drive
Chicago, Illinois 60606

Journal:
Journal of Occupational Medicine
P.O. Box 247
Downers Grove, Illinois 60515

American Public Health Association (APHA)
1015 Eighteenth Street, N.W.
Washington, D.C. 20036

Journal:
American Journal of Public Health
1015 Eighteenth Street, N.W.
Washington, D.C. 20036

American Society for Safety Engineers
850 Busse Highway
Park Ridge, Illinois 60068

Energy Research and Development Administration
20 Massachusetts Ave. N.W.
Washington, D.C. 20545

Industrial Health Foundation
5231 Centre Avenue
Pittsburgh, Pennsylvania 15232

National Council for Radiation Protection (NCRP)
7910 Woodmont Ave.
Bethesda, Maryland 21239

National Fire Protection Association (NFPA)
60 Batterymarch Street
Boston, Massachusetts 02110

Lists of Publications, films, posters

Society for Occupational and Environmental Health (SOEH)
1714 Massachusetts Avenue
Washington, D.C. 20036

U.S. Department of Health, Education, and Welfare
Public Health Service
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852

U.S. Department of Health, Education, and Welfare
Center for Disease Control
1600 Clifton Road, N.E.
Atlanta, Georgia 30333

U.S. Department of Health, Education, and Welfare
National Institute for Occupational Safety and Health (NIOSH)
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852

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U.S. Department of Health, Education, and Welfare
National Institute for Occupational Safety and Health (NIOSH)
Office of Technical Publications, Cincinnati facility
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati, Ohio 45226

List of Publications

U.S. Department of Labor
Occupational Safety and Health Administration (OSHA)
200 Constitution Ave. N.W.
Washington, D.C. 20210

List of Publications, OSHA Standards

U.S. Government Printing Office
Superintendent of Documents
Washington, D.C. 20402

NIOSH Regional Offices — See Map in Appendix

Technical Assistance, Consultation

OSHA Regional Offices — See Map in Appendix

Provide OSHA record forms

APPENDIX C

A STATEMENT FOR CERTIFICATION FOR OCCUPATIONAL HEALTH NURSES*

The American Board for Occupational Health Nurses and the American Nurses' Association have each developed certification programs. Both programs are designed to promote the high quality of nursing practice.

The success of a certification program in occupational health nursing is entirely dependent upon the coordinated efforts of the three major nursing organizations involved, the American Association of Industrial Nurses, the American Board for Occupational Health Nurses, and the American Nurses' Association. To this end, AAIN, ABOHN, and ANA do endorse and support both programs.

The ANA certification program in community health nursing incorporates all areas of community health, including occupational health. Through the ANA program, the nurse is certified as a generalist in community health nursing. The ABOHN certification program is designed specifically for nurses in occupational health.

The three organizations believe that mutual support of both certification programs will avoid duplication of efforts, unite nursing, and improve health care.

For additional information, write to the American Board for Occupational Health Nurses, Inc. (P.O. Box 638, Thousand Palms, California 92276); or write to the Certification Unit, American Nurses' Association, 2420 Pershing Road, Kansas City, Missouri 64108.

The American Association of Industrial Nurses, Inc., founded in 1942 and renamed the American Association of Occupational Health Nurses (AAOHN, 1974), is the professional organization of registered nurses represented in the specialty field of occupational health nursing. The purposes of the association are:

- to maintain the honor and character of the nursing profession.

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*This is the statement developed by the American Association of Industrial Nurses, the American Board for Occupational Health Nurses, and the American Nurses' Association in 1975. Publication Code: CR-12 10/M 11/75. Permission was granted for its use.

- to improve community health by improving nursing service to employees.
- to develop and promote standards for occupational health nurses and occupational health nursing.
- to stimulate interest in and provide a forum for the discussion of problems in the specialty of occupational health.
- to stimulate occupational health nurse participation in all nursing activities, local, state, and national.

The American Board for Occupational Health Nurses, Incorporated was formed upon the recommendation of a joint committee composed of representatives from the American Association of Industrial Nurses, Incorporated, the American Academy of Occupational Medicine, the Industrial Medical Association, the American Industrial Hygiene Association, and the Advisory Councils for the American Association of Industrial Nurses, Incorporated. The Board's purpose is to implement and conduct the program of certification of qualified occupational health nurses. The first examination was conducted in April, 1974.

The American Nurses' Association is the professional organization for registered professional nurses. The Division on Community Health Nursing Practice is one of five divisions on practice of the association. The division is concerned with all areas of community health nursing, including occupational health. One function of the Division is to plan and implement a certification program for the recognition of excellence for nurses in community health nursing practice. The first examination in community health nursing was given in May, 1975.

APPENDIX D

SAMPLE FORMS AND TABLES

SAMPLE 1 SAMPLE MEDICAL HISTORY FORM FOR FEMALE EMPLOYEES

COMPANY XYZ

Name ____________________ Department ____________________ Date __________

Please complete the following:

1. I have been pregnant _____ times.
2. I have had _____ normal pregnancies.
3. I have had _____ miscarriages.
4. I have had _____ living babies.
5. I have had _____ babies born dead.
6. I have had _____ abnormal babies.
7. I have _____ living children at present. (Check One)
8. Did you receive treatment in order to become pregnant? No___ Yes___ In doubt___
9. Did you receive treatment in order to prevent miscarriages? No___ Yes___ In doubt___
10. Did you have a pap smear or a pelvic internal examination taken in the past year? No___ Yes___ In doubt___

Fill in blank spaces and cross out words that do not apply:

1. I had my first menstrual period at _____ years of age.
2. My menstrual periods occur every _____ to _____ days.
3. My menstrual periods last _____ to _____ days.
4. I had my last menstrual period _____ days, weeks, months, years ago.
5. Do you think you are going through menopause? No___ Yes___ In doubt___
6. Have you received treatment for menopause? No___ Yes___ In doubt___
7. Has a close relative had breast cancer? No___ Yes___ In doubt___
8. Do you examine your breasts each month to detect lumps? No___ Yes___
9. Do you have your breasts examined regularly by a physician? No___ Yes___
10. Have you had a lump in either or both of your breasts? No___ Yes___
11. Have you had an operation on your female organs? No___ Yes___
    If yes, what was the operation for? ______________________________
    What year was this done? ______________________________

In the following space give any information that you feel may be helpful, but was not covered in the preceding questions.

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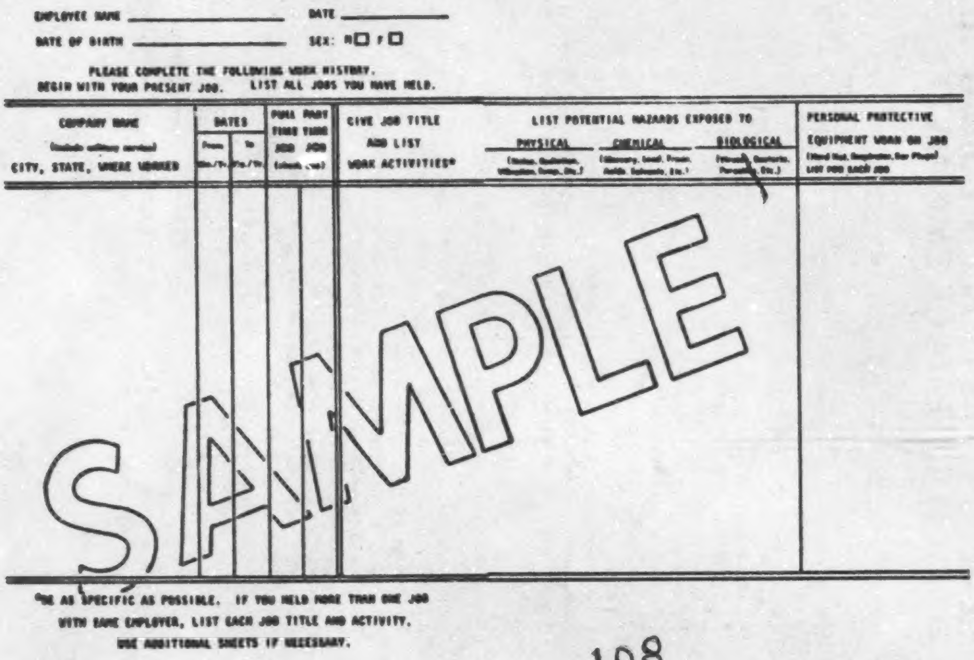
SAMPLE 2 SAMPLE OCCUPATIONAL HISTORY FORM



EMPLOYEE NAME ______________ DATE ______________

DATE OF BIRTH ______________ SEX: M ☐ F ☐

PLEASE COMPLETE THE FOLLOWING WORK HISTORY.
BEGIN WITH YOUR PRESENT JOB. LIST ALL JOBS YOU HAVE HELD.

COMPANY NAME (Include military service) CITY, STATE, WHERE WORKED	DATES		FULL TIME JOB	PART TIME JOB	GIVE JOB TITLE AND LIST WORK ACTIVITIES*	LIST POTENTIAL HAZARDS EXPOSED TO			PERSONAL PROTECTIVE EQUIPMENT WORN ON JOB (Hard Hat, Respirator, Ear Plugs) LIST FOR EACH JOB
	From Mo./Yr.	To Mo./Yr.	(check one)			PHYSICAL (Noise, Radiation, Vibration, Temp., Etc.)	CHEMICAL (Mercury, Lead, Freon, Acids, Solvents, Etc.)	BIOLOGICAL (Viruses, Bacteria, Parasites, Etc.)	

*BE AS SPECIFIC AS POSSIBLE. IF YOU HELD MORE THAN ONE JOB
WITH SAME EMPLOYER, LIST EACH JOB TITLE AND ACTIVITY.
USE ADDITIONAL SHEETS IF NECESSARY.

SAMPLE

SAMPLE 2 SAMPLE OCCUPATIONAL HISTORY FORM CONT.

I. LIST ANY SECONDARY OR MOONLIGHTING JOBS YOU HAVE HAD,
SUCH AS FIREFIGHTING, FARMING, GARDENING.

JOB TITLE DATE WORKED

From To Mo./Yr.

II. LIST HOBBIES AND ACTIVE SPORTS YOU DO (PAST AND PRESENT),
SUCH AS PAINTING, WOODWORKING, WELDING, HAIRDRESSING,
SCUBA DIVING.

HOBBY / SPORT DATES, Mo./Yr.

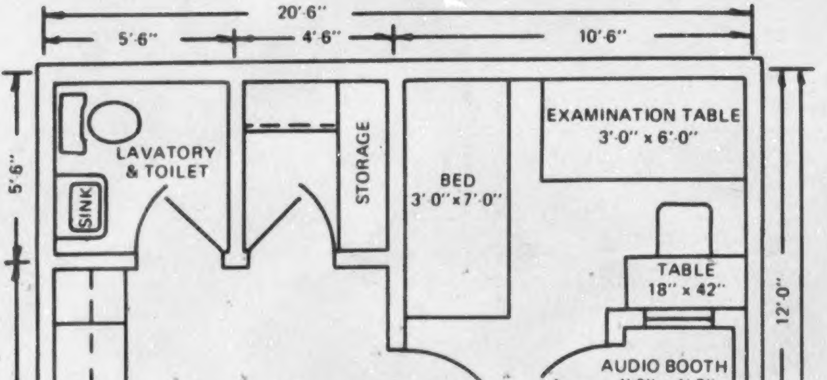
III. PLEASE COMMENT ON ANY WORK RELATED EXPERIENCES YOU HAVE HAD
THAT YOU FEEL MAY HAVE BEEN HARMFUL TO YOUR HEALTH.

SAMPLE

SAMPLE 3a SAMPLE FLOOR PLAN FOR A SMALL HEALTH SERVICES DEPARTMENT

HEALTH SERVICES DEPARTMENT,

PLAN FOR 250-500 EMPLOYEES – 420 SQ. FT.

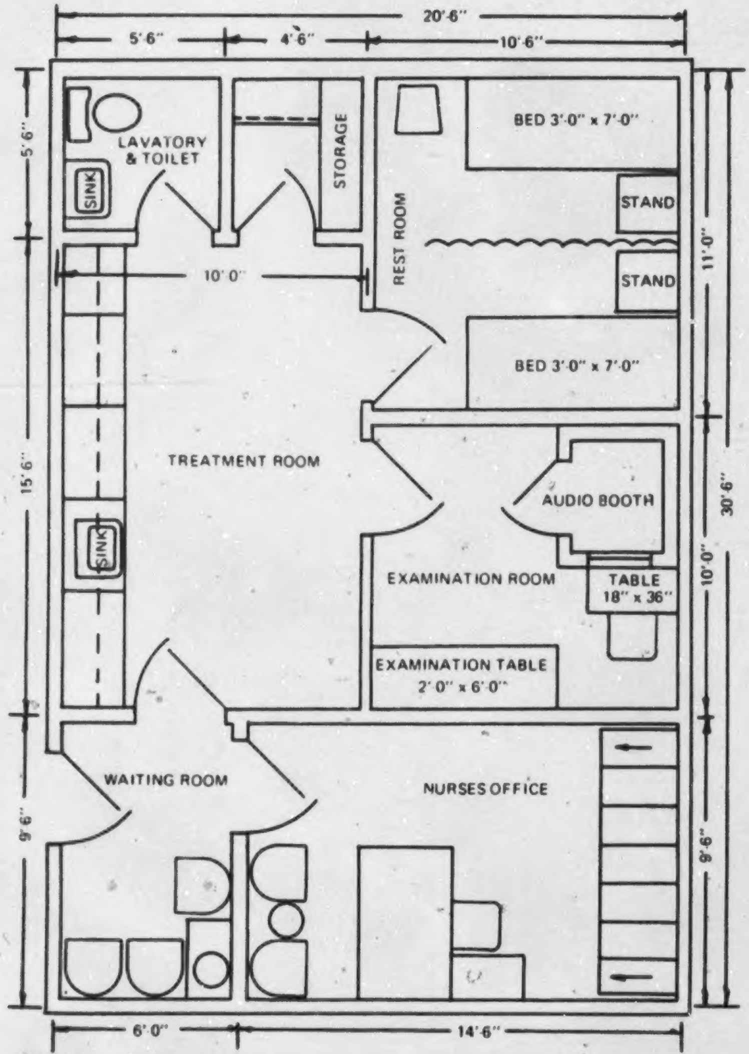

20'-6"
5'-6"
4'-6"
10'-6"
LAVATORY & TOILET
SINK
STORAGE
BED 3'-0" x 7'-0"
EXAMINATION TABLE 3'-0" x 6'-0"
TABLE 18" x 42"
AUDIO BOOTH 4'-0" x 4'-8"
TREATMENT ROOM
NURSES OFFICE
SINK
5'-6"
17'-0"
12'-0"
22'-6"
10'-6"
10'-0"
10'-6"

REPRODUCED WITH PERMISSION OF EMPLOYERS INSURANCE OF WAUSSAU, WAUSAU, WISCONSIN.

SAMPLE 3b SAMPLE FLOOR PLAN FOR A MEDIUM-SIZED HEALTH SERVICES DEPARTMENT

HEALTH SERVICES DEPARTMENT

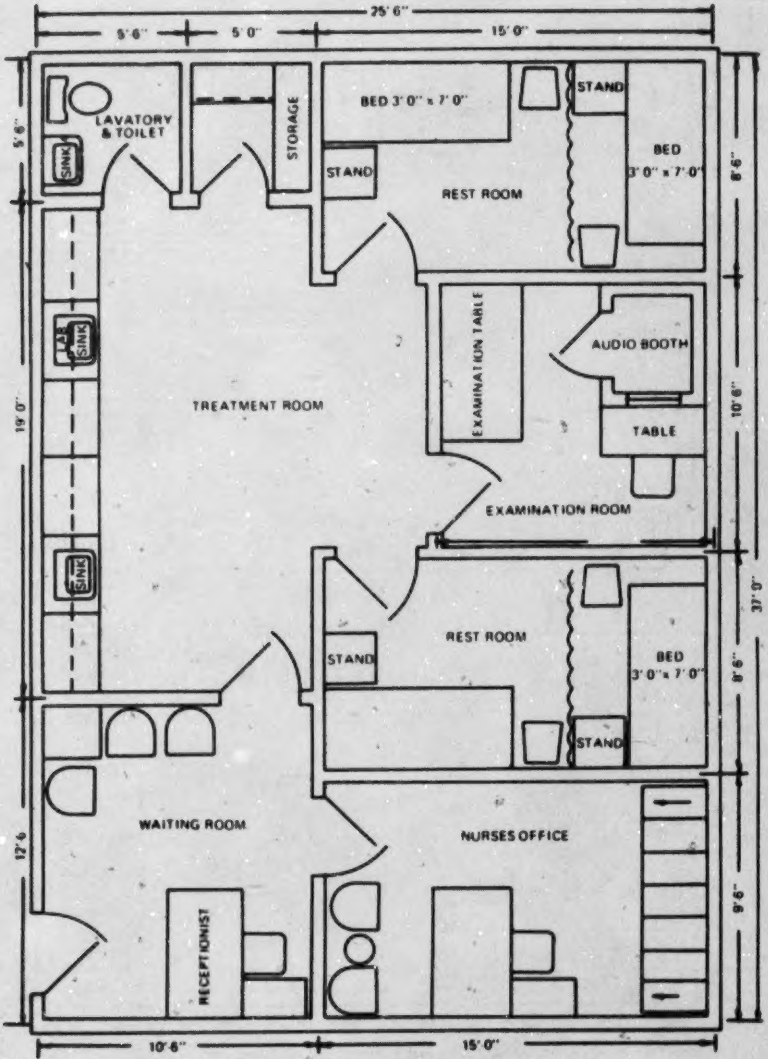
PLAN FOR 500-800 EMPLOYEES—600 SQ. FT.


20'6"
5'6"
4'6"
10'6"
LAVATORY & TOILET
SINK
STORAGE
REST ROOM
BED 3'0" x 7'0"
STAND
STAND
BED 3'0" x 7'0"
10'0"
5'6"
11'0"
TREATMENT ROOM
SINK
15'6"
AUDIO BOOTH
EXAMINATION ROOM
TABLE 18" x 36"
EXAMINATION TABLE 2'0" x 6'0"
10'0"
30'6"
WAITING ROOM
NURSES OFFICE
9'6"
9'6"
6'0"
14'6"

REPRODUCED WITH PERMISSION OF EMPLOYERS INSURANCE OF WAUSAU, WAUSAU, WISCONSIN.

SAMPLE 3c SAMPLE FLOOR PLAN FOR A LARGE HEALTH SERVICES DEPARTMENT

HEALTH SERVICES DEPARTMENT
PLAN FOR 1,000–1,200 EMPLOYEES–925 SQ. FT.


25' 6"
5' 6"
5' 0"
15' 0"
LAVATORY & TOILET
SINK
STORAGE
BED 3' 0" x 7' 0"
STAND
STAND
BED 3' 0" x 7' 0"
REST ROOM
5' 6"
8' 6"
LAB SINK
SINK
TREATMENT ROOM
19' 0"
EXAMINATION TABLE
AUDIO BOOTH
TABLE
EXAMINATION ROOM
10' 6"
37' 0"
REST ROOM
STAND
BED 3' 0" x 7' 0"
STAND
8' 6"
WAITING ROOM
NURSES OFFICE
RECEPTIONIST
12' 6
9' 6"
10' 6"
15' 0"

REPRODUCED WITH PERMISSION OF EMPLOYERS INSURANCE OF WAUSAU, WAUSAU, WISCONSIN.

TABLE A TABLE OF ORGANIZATION FOR A MEDIUM-SIZED INDUSTRY

(One-Nurse Unit)

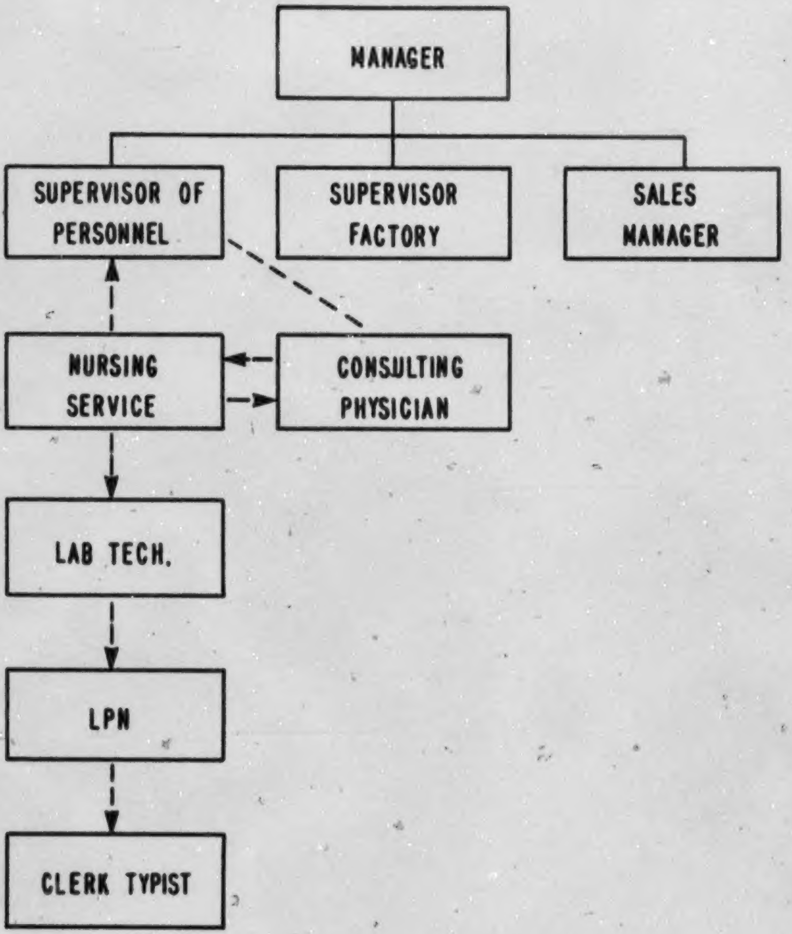
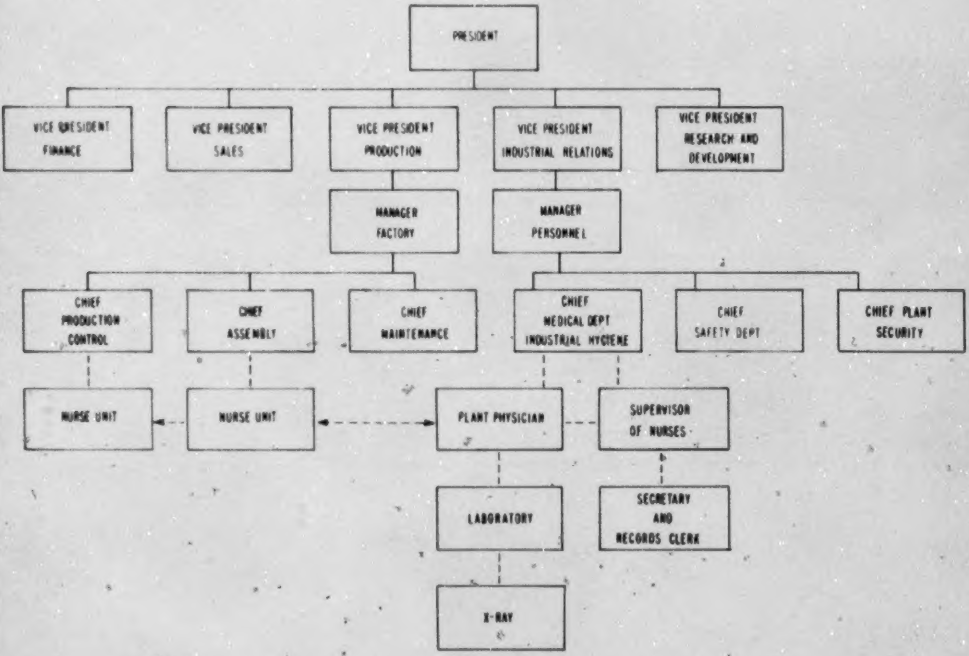

MANAGER
SUPERVISOR OF PERSONNEL
SUPERVISOR FACTORY
SALES MANAGER
NURSING SERVICE
CONSULTING PHYSICIAN
LAB TECH.
LPN
CLERK TYPIST

TABLE B TABLE OF ORGANIZATION FOR A LARGE INDUSTRY

(Multiple-Nurse Units)


PRESIDENT
VICE PRESIDENT FINANCE
VICE PRESIDENT SALES
VICE PRESIDENT PRODUCTION
VICE PRESIDENT INDUSTRIAL RELATIONS
VICE PRESIDENT RESEARCH AND DEVELOPMENT
MANAGER FACTORY
MANAGER PERSONNEL
CHIEF PRODUCTION CONTROL
CHIEF ASSEMBLY
CHIEF MAINTENANCE
CHIEF MEDICAL DEPT INDUSTRIAL HYGIENE
CHIEF SAFETY DEPT
CHIEF PLANT SECURITY
NURSE UNIT
NURSE UNIT
PLANT PHYSICIAN
SUPERVISOR OF NURSES
LABORATORY
SECRETARY AND RECORDS CLERK
X-RAY

APPENDIX E

OSHA FORM 200

U.S. Department of Labor

Bureau of Labor Statistics
Log and Summary of Occupational
Injuries and Illnesses

For Calendar Year 19 ______

Page ____of____

NOTE: **This form is required by Public Law 91-596 and must be kept in the establishment for *5 years*. Failure to maintain and post can result in the issuance of citations and assessment of penalties.** ***(See posting requirements on the other side of form.)***

RECORDABLE CASES: You are required to record information about every occupational **death**; every nonfatal occupational **illness**; and those nonfatal occupational **injuries** which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid). ***(See definitions on the other side of form.)***

Company Name

Establishment Name

Establishment Address

Form Approved
O.M.B. No. 44R 1453

Case or File Number	**Date of Injury or Onset of Illness**	**Employee's Name**	**Occupation**	**Department**	**Description of Injury or Illness**	**Extent of and Outcome of INJURY**						**Type, Extent of, and Outcome of ILLNESS**												
						Fatalities	**Nonfatal Injuries**					**Type of Illness**							**Fatalities**	**Nonfatal Illnesses**				
						Injury Related	**Injuries With Lost Workdays**				**Injuries Without Lost Workdays**	**CHECK Only One Column for Each Illness** ***(See other side of form for terminations or permanent transfers.)***							**Illness Related**	**Illnesses With Lost Workdays**				**Illnesses Without Lost Workdays**
Enter a nonduplicating number which will facilitate comparisons with supplementary records.	Enter Mo./day.	Enter first name or initial, middle initial, last name.	Enter regular job title, not activity employee was performing when injured or at onset of illness. In the absence of a formal title, enter a brief description of the employee's duties.	Enter department in which the employee is regularly employed or a description of normal workplace to which employee is assigned, even though temporarily working in another department at the time of injury or illness.	Enter a brief description of the injury or illness and indicate the part or parts of body affected. Typical entries for this column might be: Amputation of 1st joint right forefinger; Strain of lower back; Contact dermatitis on both hands; Electrocution—body.	Enter **DATE** of death. **Mo./day/yr.**	Enter a **CHECK** if injury involves days away from work, or days of restricted work activity, or both.	Enter a **CHECK** if injury involves days away from work.	Enter number of **DAYS *away from work.***	Enter number of **DAYS** of ***restricted work activity.***	Enter a **CHECK** if no entry was made in columns 1 or 2 but the injury is recordable as defined above.	Occupational skin diseases or disorders	Dust diseases of the lungs	Respiratory conditions due to toxic agents	Poisoning (systemic effects of toxic materials)	Disorders due to physical agents	Disorders associated with repeated trauma	All other occupational illnesses	Enter **DATE** of death. **Mo./day/yr.**	Enter a **CHECK** if illness involves days away from work, or days of restricted work activity, or both.	Enter a **CHECK** if illness involves days away from work.	Enter number of **DAYS *away from work.***	Enter number of **DAYS** of ***restricted work activity.***	Enter a **CHECK** if no entry was made in columns 8 or 9.
(A)	(B)	(C)	(D)	(E)	(F)	(1)	(2)	(3)	(4)	(5)	(6)	(7) (a)	(b)	(c)	(d)	(e)	(f)	(g)	(8)	(9)	(10)	(11)	(12)	(13)
					PREVIOUS PAGE TOTALS →																			
					TOTALS (Instructions on other side of form.) →																			

INJURIES

ILLNESSES

OSHA No. 200

Certification of Annual Summary Totals By ______________________ Title ______________________ Date ______________

OSHA No. 200

POST ONLY THIS PORTION OF THE LAST PAGE NO LATER THAN FEBRUARY 1.

Instructions for OSHA No. 200

I. Log and Summary of Occupational Injuries and Illnesses

Each employer who is subject to the recordkeeping requirements of the Occupational Safety and Health Act of 1970 must maintain for each establishment a log of all recordable occupational injuries and illnesses. This form (OSHA No. 200) may be used for that purpose. A substitute for the OSHA No. 200 is acceptable if it is as detailed, easily readable, and understandable as the OSHA No. 200.

Enter each recordable case on the log within six (6) workdays after learning of its occurrence. Although other records must be maintained at the establishment to which they refer, it is possible to prepare and maintain the log at another location, using data processing equipment if desired. If the log is prepared elsewhere, a copy updated to within 45 calendar days must be present at all times in the establishment.

Logs must be maintained and retained for five (5) years following the end of the calendar year to which they relate. Logs must be available (normally at the establishment) for inspection and copying by representatives of the Department of Labor, or the Department of Health, Education and Welfare, or States accorded jurisdiction under the Act.

II. Changes in Extent of or Outcome of Injury or Illness

If, during the 5-year period the log must be retained, there is a change in an extent and outcome of an injury or illness which affects entries in columns 1, 2, 6, 8, 9, or 13, the first entry should be lined out and a new entry made. For example, if an injured employee at first required only medical treatment but later lost workdays away from work, the check in column 6 should be lined out, and checks entered in columns 2 and 3 and the number of lost workdays entered in column 4.

In another example, if an employee with an occupational illness lost workdays, returned to work, and then died of the illness, the entries in columns 9 and 10 should be lined out and the date of death entered in column 8.

The entire entry for an injury or illness should be lined out if later found to be nonrecordable. For example: an injury or illness which is later determined not to be work related, or which was initially thought to involve medical treatment but later was determined to have involved only first aid.

III. Posting Requirements

A copy of the totals and information following the fold line of the last page for the year must be posted at each establishment in the place or places where notices to employees are customarily posted. This copy must be posted no later than ***February 1 and must remain in place until March 1.***

Even though there were no injuries or illnesses during the year, zeros must be entered on the totals line, and the form posted.

The person responsible for the ***annual summary totals*** shall certify that the totals are true and complete by signing at the bottom of the form.

IV. Instructions for Completing Log and Summary of Occupational Injuries and Illnesses

Column A – **CASE OR FILE NUMBER.** Self-explanatory.

Column B – **DATE OF INJURY OR ONSET OF ILLNESS.**
For occupational injuries, enter the date of the work accident which resulted in injury. For occupational illnesses, enter the date of initial diagnosis of illness, or, if absence from work occurred before diagnosis, enter the first day of the absence attributable to the illness which was later diagnosed or recognized.

Columns C through F – Self-explanatory.

Columns 1 and 8 – **INJURY OR ILLNESS-RELATED DEATHS.**
Self-explanatory.

Columns 2 and 9 – **INJURIES OR ILLNESSES WITH LOST WORKDAYS.**
Self-explanatory.

Any injury which involves days away from work, or days of restricted work activity, or both must be recorded since it always involves one or more of the criteria for recordability.

Columns 3 and 10 – **INJURIES OR ILLNESSES INVOLVING DAYS AWAY FROM WORK.** Self-explanatory.

Columns 4 and 11 – **LOST WORKDAYS—–DAYS AWAY FROM WORK.**
Enter the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness. The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.
NOTE: For employees not having a regularly scheduled shift, such as certain truck drivers, construction workers, farm labor, casual labor, part-time employees, etc., it may be necessary to estimate the number of lost workdays. Estimates of lost workdays shall be based on prior work history of the employee AND days worked by employees, not ill or injured, working in the department and/or occupation of the ill or injured employee.

Columns 5 and 12 – **LOST WORKDAYS—–DAYS OF RESTRICTED WORK ACTIVITY.**
Enter the number of workdays (consecutive or not) on which because of injury or illness:

(1) the employee was assigned to another job on a temporary basis, or
(2) the employee worked at a permanent job less than full time, or
(3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of lost workdays should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Columns 6 and 13 – **INJURIES OR ILLNESSES WITHOUT LOST WORKDAYS.** Self-explanatory.

Columns 7a through 7g – **TYPE OF ILLNESS.**
Enter a check in only ***one*** column for each illness.

TERMINATION OR PERMANENT TRANSFER–Place an asterisk to the right of the entry in columns 7a through 7g (type of illness) which represented a termination of employment or permanent transfer.

V. Totals

Add number of entries in columns 1 and 8.
Add number of checks in columns 2, 3, 6, 7, 9, 10, and 13.
Add number of days in columns 4, 5, 11, and 12.
Totals are to be generated for each column at the end of each page and at the end of each year. *Only* the yearly totals are required for posting.

If an employee's loss of workdays is continuing at the time the totals are summarized, estimate the number of future workdays the employee will lose and add that estimate to the workdays already lost and include this figure in the annual totals. No further entries are to be made with respect to such cases in the next year's log.

VI. Definitions

OCCUPATIONAL INJURY is any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from an exposure involving a single incident in the work environment.
NOTE: Conditions resulting from animal bites, such as insect or snake bites or from one-time exposure to chemicals, are considered to be injuries.

OCCUPATIONAL ILLNESS of an employee is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.

The following listing gives the categories of occupational illnesses and disorders that will be utilized for the purpose of classifying recordable illnesses. For purposes of information, examples of each category are given. These are typical examples, however, and are not to be considered the complete listing of the types of illnesses and disorders that are to be counted under each category.

7a. **Occupational Skin Diseases or Disorders**
Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; chrome ulcers; chemical burns or inflammations; etc.

7b. **Dust Diseases of the Lungs (Pneumoconioses)**
Examples: Silicosis, asbestosis, coal worker's pneumoconiosis, byssinosis, siderosis, and other pneumoconioses.

7c. **Respiratory Conditions Due to Toxic Agents**
Examples: Pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dusts, gases, or fumes; farmer's lung; etc.

7d. **Poisoning (Systemic Effect of Toxic Materials)**
Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays such as parathion, lead arsenate; poisoning by other chemicals such as formaldehyde, plastics, and resins; etc.

7e. **Disorders Due to Physical Agents (Other than Toxic Materials)**
Examples: Heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat; freezing, frostbite, and effects of exposure to low temperatures; caisson disease; effects of ionizing radiation (isotopes, X-rays, radium); effects of nonionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn); etc.

7f. **Disorders Associated With Repeated Trauma**
Examples: Noise-induced hearing loss; synovitis, tenosynovitis, and bursitis; Raynaud's phenomena; and other conditions due to repeated motion, vibration, or pressure.

7g. **All Other Occupational Illnesses**
Examples: Anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidioidomycosis, etc.

MEDICAL TREATMENT includes treatment (other than first aid) administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does NOT include first-aid treatment (one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care) even though provided by a physician or registered professional personnel.

ESTABLISHMENT: A single physical location where business is conducted or where services or industrial operations are performed (for example: a factory, mill, store, hotel, restaurant, movie theater, farm, ranch, bank, sales office, warehouse, or central administrative office). Where distinctly separate activities are performed at a single physical location, such as construction activities operated from the same physical location as a lumber yard, each activity shall be treated as a separate establishment.

For firms engaged in activities which may be physically dispersed, such as agriculture; construction; transportation; communications; and electric, gas, and sanitary services, records may be maintained at a place to which employees report each day.

Records for personnel who do not primarily report or work at a single establishment, such as traveling salesmen, technicians, engineers, etc., shall be maintained at the location from which they are paid or the base from which personnel operate to carry out their activities.

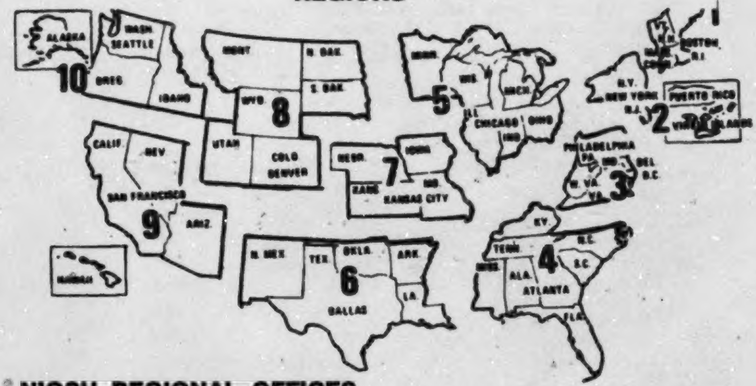
WORK ENVIRONMENT is comprised of the physical location, equipment, materials processed or used, and the kinds of operations performed in the course of an employee's work, whether on or off the employer's premises.

APPENDIX F

NIOSH REGIONAL OFFICES

The following pages list NIOSH and OSHA regional offices which can provide information on the OCCUPATIONAL SAFETY AND HEALTH ACT including questions on standards interpretations, voluntary compliance information, copies of the OSHA Standards, OSHA Act, Employee Rights Posting Notice, and publications.

REGIONS


ALASKA
WASH.
SEATTLE
10
OREG.
IDAHO
MONT.
N. DAK.
S. DAK.
WYO.
8
UTAH
COLO.
DENVER
CALIF.
NEV.
SAN FRANCISCO
9
ARIZ.
HAWAII
MINN.
WIS.
MICH.
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ILL.
CHICAGO
IND.
OHIO
NEBR.
IOWA
7
KANS.
MO.
KANSAS CITY
N. MEX.
TEX.
OKLA.
ARK.
6
LA.
DALLAS
VT.
N.H.
BOSTON
MASS.
CONN.
R.I.
1
N.Y.
NEW YORK
N.J.
PUERTO RICO
2
VIRGIN ISLANDS
PHILADELPHIA
PA.
MD.
DEL.
D.C.
W. VA.
VA.
3
KY.
TENN.
N.C.
S.C.
MISS.
ALA.
ATLANTA
4
FLA.

NIOSH REGIONAL OFFICES

DHEW, Region I
Government Center
(JFK Fed. Bldg.)
Boston, Massachusetts 02203
Tel.: 617/223-6668/9

DHEW, Region II
26 Federal Plaza
New York, New York 10007
Tel.: 212/264-2485/6

DHEW, Region III
3525 Market Street,
P.O. Box 13716
Philadelphia, Pennsylvania 19101
Tel.: 215/596-6716

DHEW, Region IV
50 Seventh Street, N.E.
Atlanta, Georgia 30323
Tel.: 404/881-4474

DHEW, Region V
300 South Wacker Drive
Chicago, Illinois 60607
Tel.: 312/886-3881

DHEW, Region VI
1200 Main Tower Building
Room 1700-A
Dallas, Texas 75245
Tel.: 214/655-3081

DHEW, Region VII
601 East 12th Street
Kansas City, Missouri 64106
Tel.: 816/374-5332

DHEW, Region VIII
19th & Stout Streets
9017 Federal Building
Denver, Colorado 80202
Tel.: 303/837-3979

DHEW, Region IX
50 Fulton Street (223 FOB)
San Francisco, California 94102
Tel.: 415/556-3781

DHEW, Region X
1321 Second Avenue
(Arcade Bldg.)
Seattle, Washington 98101
Tel.: 206/442-0530

OSHA REGIONAL OFFICES

NOTE: For an office close to you, check your telephone directory under United States Government or dial 800-555-1212 and ask for the toll-free number of the OSHA office nearest you.

Region I
U.S. Department of Labor
Occupational Safety and Health Administration
JFK Building, Room 1804
Boston, Massachusetts 02203 ______________Telephone: 617/223-6712/3

Region II
U.S. Department of Labor
Occupational Safety and Health Administration
1515 Broadway (1 Astor Plaza), Room 3445
New York, New York 10036 ________________Telephone: 212/971-5941/2

Region III
U.S. Department of Labor
Occupational Safety and Health Administration
15220 Gateway Center, 3535 Market Street
Philadelphia, Pennsylvania 19104 _____________Telephone: 215/596-1201

Region IV
U.S. Department of Labor
Occupational Safety and Health Administration
1375 Peachtree Street, N.E., Suite 587
Atlanta, Georgia 30309 __________Telephone: 404/526-3573/4 or 2281/2

Region V
U.S. Department of Labor
Occupational Safety and Health Administration
230 S. Dearborn, 32nd Floor
Chicago, Illinois 60604 ____________________Telephone: 312/353-4716/7

Region VI
U.S. Department of Labor
Occupational Safety and Health Administration
555 Griffin Square Building, Room 602
Dallas, Texas 75202 ______________Telephone: 214/749-2477/8/9 or 2567

Region VII
U.S. Department of Labor
Occupational Safety and Health Administration
Federal Building, Room 3000, 911 Walnut Street
Kansas City, Missouri 64106 ________________Telephone: 816/374-5861

Region VIII
U.S. Department of Labor
Occupational Safety and Health Administration
Federal Building, Room 15010, 1961 Stout Street
Denver, Colorado 80202 ___________________Telephone: 303/837-3883

Region IX
U.S. Department of Labor
Occupational Safety and Health Administration
9470 Federal Building, 450 Golden Gate Avenue
Post Office Box 36017
San Francisco, California 94102 _____________Telephone: 415/556-0584

Region X
U.S. Department of Labor
Occupational Safety and Health Administration
6048 Federal Office Building
909 First Avenue
Seattle, Washington 98174 __________________Telephone: 206/442-5930

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